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**IMPLEMENTATION OF CLASSROOM ACTION RESEARCH IN ZIMBABWEAN
TEACHER EDUCATION COLLEGES: IMPLICATIONS FOR TEACHER EDUCATION
CURRICULUM**

BY

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**A THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY IN EDUCATION AT THE
UNIVERSITY OF FORT HARE**

PROMOTER

PROFESSOR SYMPHOROSA REMBE

DECEMBER 2016

DECLARATION

I solemnly declare that this thesis, entitled '**Implementation of classroom action research in Zimbabwean teacher education colleges: implications for teacher education curriculum**' is exclusively a product of my own research. I hereby affirm that to the best of my understanding and belief, the thesis contains no material previously published in any institution. Published and unpublished work by other scholars has been gratefully acknowledged with related sources cited both in text and in the list of references. This thesis has not been submitted to any other institution of higher learning for the award of any degree or qualification.

Wilson Banda

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ABSTRACT

It was the purpose of this study to interrogate the implementation of classroom action research (CAR) in identified Zimbabwean teachers' colleges to provide the basis for future policy directions and related day-to-day CAR practice. The study leaned on the progressive educationists' stance that teaching is an intricate profession that has more to it than mere technical skills. Teaching is viewed as a lifelong profession that requires pre-service teachers to be capacitated with CAR skills and competencies to ensure that they systematically, intentionally and critically consider a myriad of learner related psychosocial factors in their tour of duty. In that way teachers are made to appreciate why they should teach the way they teach, without necessarily turning them into some kind of public intellectuals, philosophers or theorists. The study utilised the mixed methods research approach in tune with the adopted pragmatism paradigm. The research paradigm draws on the strengths of both empirical data and the theoretical sentiments drawn from the respondents.

The study used the concurrent triangulation design, rooted in the post-positivist research paradigm that integrates concurrent procedures in the collection, analysis and interpretation of research data. It was guided by three theoretical frameworks, namely, the experiential learning theory, the curriculum implementation framework and the living educational theory. The theories have a strong bearing on reflective practice and they acknowledge the subjectivity of truth. The study's purposive sample comprised of sixty-four teacher educators and seventy-six preservice teachers. Several research instruments were utilised to solicit the requisite CAR implementation quantitative and qualitative data. These were questionnaires, interview schedules, focus group discussions and documents. The Statistical Packages for Social Sciences were used to summarise the solicited data through graphical representations and related frequency tables depicting descriptive statistics such as range, mean and mode.

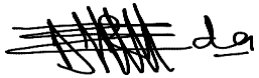
Qualitative data were analysed using content analysis through emerging themes,

related to the sub-research questions. The study established that although the bulk of the teacher educators had the requisite professional qualifications, maturity and experiential background, more curricular and organisational reconstruction was required to improve on the status quo. For instance, solicited data demonstrated that the lecturers' appetite for educational research was low. Furthermore, the teacher educators' CAR skills and competencies were compromised by the research component's inadequate contact time. In addition, it was instituted that the teachers' colleges produced student teachers who lacked sound grasp of the CAR process. The mediocrity was attributed to a series of teacher educator and student teacher factors which were exacerbated by several other organisational and administrative impediments. Overall, the study concluded that teacher educators were incapacitated to effectively deliver CAR, owing partly to the nature of teacher educator preparation they got and the watered down professional induction. It further revealed that it was wrong to assume that all lecturers had operational capacity to effectively teach and supervise CAR projects. Furthermore, the study recommended that the teacher educators' capacity in CAR needs enhancement. Identified CAR implementation strategies need further reconstruction and enforcement.

KEY WORDS: Classroom Action Research; Curriculum; Implementation; Teacher Education College

DECLARATION ON PLAGIARISM

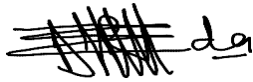
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A handwritten signature in black ink, appearing to be 'Wilson Banda', written over a series of horizontal lines.

DEDICATION

I would like to dedicate this thesis to my late sister Tabeth Banda and beloved uncle, Athanasios Lambert Mamvura. I also dedicate this thesis to my late father, Ephream Norman Natona Banda, my fountain of life. Together, we would have celebrated the way the trio showered me with praises as I collected school accolades during my 'hay days'. This work should also serve as a push factor to my daughters and son: Lina, Nyaradzo Carolyn, Chrystabel Tabeth Nokanya and Wilson (junior) Ephream Takunda. With God and determination, all our dreams are possible. It can be done. This is just the beginning of another end.

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ACRONYMS AND ABBREVIATIONS

AATE	Australian Association for the Teaching of English
ACT	Australian Capital Territory
ADE	Advanced Diploma in Education
A-Level	Advanced Level
ANOVA	Analysis of Variance
B.Ed	Bachelor of Education Degree
BERA	British Educational Research Association
BEST	Better Environmental Science Teaching
BSPZ	Better Schools Programme-Zimbabwe
CAR	Classroom Action Research
CDE	California Department of Education
CDS	Curriculum Depth Studies
CIF	Curriculum Implementation Framework
CPD	Continuous Professional Development
CUA	Catholic University of America
DBE	Department of Basic Education
DE	Distance Education
DHET	Department of Higher Education and Training
DoE	Department of Education
DTE	Department of Teacher Education
DVD	Digital Versatile Disc
ECED	Early Childhood Education and Development
EFA	Education for All
ELRC	Early Learning Resource Centre
ESL	English-as-a-Second Language
EST	Experiential Learning Theory
ETDP	Education Training and Development Practices

ETS	Educational Testing Services
FGD	Focus Group Discussions
GNU	Government of National Unity
GTC	General Teaching Centre
HEQC	Higher Education Qualifications Committee
HOD	Head of Department
HOS	Head of Subject
ICT	Information and Communication Technology
ILO	International Labour Organisation
INTO	Irish National Teachers' Organisation
IPET	Initial Professional Education of Teachers
ITEPD	Initial Teacher Education and Professional Development
JOST	Journal of Science Education and Technology
JPE	Junior Primary Education
K-12	Kindergarten through to the 12th grade
LET	Living Educational Theory
LIC	Lecturer-in-charge
Med	Master of Education Degree
MRTEQ	Minimum Requirements for Teacher Education Qualifications
NCLB	No Child Left Behind
NCTE	National Council for Teacher Education
NGOs	Non-Governmental Organisations
NSFAS	National Student Financial Aid Scheme of South Africa
NZTC	New Zealand Teachers' Council
OCT	Ontario College of Teachers
OECD	Organisation for Economic Co-operation and Development
O-Level	Ordinary Level
OMoE	Ontario Ministry of Education
PDS	Professional Development Studies
PED	Provincial Education Department
PhD	Doctor of Philosophy

PISA	Programme for Internal Students Assessment
PSA	Professional Studies Syllabus A
PSB	Professional Studies Syllabus B
PSC	Professional Studies Syllabus C
QTS	Qualified Teacher Status
RSA	Royal Society for the Encouragement of Arts, Manufacturing and Commerce
SA	South Africa
SADC	Southern African Development Community
SDG	Sustainable Development Goal
SETA	Sector Education and Training Authority
SPSS	Statistical Package for the Social Sciences
SSA	Sub-Saharan Africa
STC	Shortwood Teachers' College
TDA	Training and Development Agency for Schools
TIMSS	Trends in International Mathematics and Science Study
TOE	Theory of Education
TP	Teaching Practice
UFH	University of Fort Hare
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations International Children's Education Fund
USA	United States of America
UREC	University of Fort Hare's Research Ethics Committee
UZ	University of Zimbabwe
ZGCE O-Level	Zimbabwe General Certificate of Education Ordinary-Level
ZPD	Zone of Proximal Development

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CHAPTER ONE

INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 Introduction

Educationists concur that the UNESCO driven Education for All (EFA) trajectory whose target was the year 2015 precipitated the prodigious institution of quantitative expansion of education delivery, particularly in Sub-Saharan Africa (SSA). The drive saw unprecedented increase in learners who accessed formal education particularly at primary and secondary school levels (Kanyongo, 2005; Komba and Nkumbi, 2008; UNESCO, 2007). A sudden boom was realised by most SSA states in the establishment of educational infrastructure such as classrooms, science laboratories, establishment of more senior high schools and universities and provision of textbooks. In spite of all such positivity, debate rages on the general quality of the related education systems against the backdrop of seemingly stagnant or declining students' achievements and general societal moral decadency. Education authorities in SSA seem to concede that the war against shoddy quality of education appears far from being won (Ministries of Education, Sport and Culture and Higher and Tertiary Education, 2004; Mwanza, 2014).

The persistent unpleasant student achievement levels, particularly in Mathematics and Sciences are attributed to an array of factors with the overarching one being the teacher quality. This is in acknowledgement of the utility of the teacher factor as a pivotal component of the student achievement equation, culminating in being an integral societal and economic development enabler in the long run. In that view, it is succinctly alleged that educational institutions continue to churn out teachers void of teacher reflectiveness but behave uniformly even in different circumstances. According to the National Institute of Education (2008), such teachers do not fulfil the espoused teacher researcher who thrives on the delivery of child-centered instruction, in sync with the dictates of the socio-economic dynamics of the 21st Century, characterised by

a multiplicity of learners in this age of information and communication technology. Consequently, it follows that the contemporary initial teacher education and professional development (ITEPD) programmes should thrive to develop reflective teachers, nurtured through systematic and deliberate engagement in classroom action research (CAR) opportunities. Taking into cognisance the Zimbabwean ITEPD policies, particularly, during the EFA trajectory, one notices that policies were often reconstructed in realisation of the fact that the teacher is key and has to be nurtured accordingly. ITEPD programmes' redesigning saw the further reconceptualisation of CAR as a key component of preservice teacher professional development. However, the implementations of CAR initiatives in teacher preparation remains suspect hence this study.

It should be noted that this chapter served as the introductory segment of the entire study. It contextualised the problem under study by outlining classroom action research (CAR) implementation experiences internationally, regionally and zeroes on to the Zimbabwean experience. The chapter outlined the background of the study, statement of the problem, research questions, and purpose of the study, together with research objectives, significance of the study and definition of key terms, as used in the study. It culminated by providing the chapter outline of the entire study followed by the chapter's concise summary. First to be presented was the background of the study.

1.2 Background of the study

It is the purpose of any initial teacher education and professional development programme to nurture pre-service teachers who eventually become effective teachers. Such teachers must have the intellectual, moral and critical abilities to function in the 21st century classrooms characterised by learners of diverse social and cultural backgrounds, intellectual capabilities and economic disparities (Rossouw, 2009; Yost, Senter and Forlenza-Bailey, 2000). Consequently, critical reflection is upheld as the root upon which reflective teaching is grounded. Therefore, reflection, like a thread,

should run across any initial teacher education programme. Educationists seem to concur that critical reflection is best developed through the engagement of pre-service teachers in classroom action research (Anderson, Waite and Nelson, 2014; Casey, 2012; McNiff and Whitehead, 2008; Nunan, 2006). Seemingly in consolidation of the above view, Cochran-Smith and Lytle (2009) state that the only way for pre-service teachers to be high-order thinkers is to struggle overtime in the company of experienced teachers who are themselves committed to collaboration and reform in their own classrooms. It is here emphasised that it is mainly through CAR, especially collaborative, that a meaningful pre-service teacher emerges. A reflective teacher is perceived to be one who has the potential to bring about change to routine classroom practices and future career assignments (Rock and Levin, 2002).

Seemingly, there is a considerable paradigm shift in the 21st Century where the 3Rs (reading, writing and arithmetic) now merge with the 4Cs, namely: creativity, critical thinking, communication and collaboration (Elliot, 2001). Thus, teaching is underpinned on reflection or constructivism. According to Lombardi and Oblinger (2007), reflective teaching, also called authentic learning, is indispensable in the new dispensation. Reflection focuses on real world phenomena where learning experiences are more practical, hands-on, aimed at making learners experience problem-solving through role-playing, experimentation, design, case-studies and participation in collaborative initiatives. Nunan (2006) proposes the following generic attributes as the bedrock of effective and reflective teaching: positive interest, sound judgment, adaptability and strong personality. In view of the fore outlined paradigm shift, educationists concur that the 21st century classroom or learning environment requires the services of a reflective teacher, one who is a competent practitioner researcher (Arias, 2007; Hong and Lawrence, 2011; Rock and Levin, 2002; Rossouw, 2009).

However, according to Taber (2009), the acknowledgement of teacher researchers as professionals who should be engaged in life-long problem-solving clearly shows that no initial teacher education and professional development curriculum may claim to

equip trainee teachers with a toolbox of ready-made instructional solutions for all problems to be encountered during their tour of duty. Furthermore, it should be appreciated that a teacher researcher is not developed overnight. Such a practitioner is nurtured through a deliberate teacher education and development curriculum that should then expose pre-service teachers to a series of CAR opportunities, especially during their ‘infancy stage’ (Cochran-Smith and Lytle, 2009; Darling-Hammond, 2006; Reason and Bradbury, 2008; Zeichner, 2003).

1.2.1 The world overview of classroom action research

An overview appreciation of CAR’s international best practices, with experiences drawn from the United States of America, United Kingdom, Continental Europe, Australia, New Zealand, Japan, Indonesia and Sub-Saharan Africa revealed that the development of a teacher researcher was long embraced as key in developing a reflective teacher (Casey, 2012; Catholic University of America (CUA), 2005; Denzin and Lincoln, 2009; Ellis, 2012; Ellis, Armstrong and Groundwater-Smith, 2010; Munjanganja and Machawira, 2014; Murthy and Lyer, 2013; Rossouw, 2009). It was noted CAR has become a global culture. This could be attributed to the surmounting pressure that continue to be received from both public and government sources for schools to find solutions to a gamut of educational practice inadequacies, with focus on improvement starting from within the four walls of the classroom (Johnson, 2011). It was appreciated that teachers, from their formative stage, must have the enthusiasm, competence and skills to critically examine their day-to-day practice as well as how students learn best. It would be futile to regard teachers as mere consumers of educational research since the bulk of such research is not in sync with local classroom variations. Consequently, it was suggested that traditional educational research and CAR should complement each other (CUA-Catholic University of America, 2005; Ellis, Armstrong and Groundwater-Smith, 2010).

Most pre-service teachers who participated in CAR, particularly in collaborative research, were reported by most CAR researchers (Casey, 2012; Denzin and Lincoln, 2009; Ellis, 2012; Murthy and Lyer, 2013; Rossouw, 2009) to have shown significant

improvement in their research attitude, confidence, knowledge and skills. Such teachers acknowledged profound mastery and implementation of appropriate methods of data collection and analyses, coupled with sound understanding of the role of theoretical framework in CAR. The participants are known to have moved from being mere peripheral consumers of educational research to more significant teacher researchers. University, college or a country's context, on one hand, was confirmed by most global CAR reports to be a strong determinant of an institution's or country's research culture. For instance, emphasis on research output for lecturer or teacher promotion, active promotion or research mentoring, continual presentation of research papers at say international workshops or conferences where funding was granted and academic leave granted for research purposes were notable CAR enablers gleaned from literature (Schulze, 2009; Marsh, Swanepoel and Kakaza, 2009). In Australia, for instance, according to (Ellis, 2012; Hine and Lavery, 2014b) education districts were reported to be granted funds annually which they disbursed to schools or teachers on application for CAR funding. Furthermore, teacher researchers were given the opportunity to share their research findings with colleague teachers in their districts or inter-district. Such financial incentives certainly saw improvement in teacher participation in CAR.

Feelings of overload seemed to cut across most CAR feedback by teacher researchers. Most participants felt overwhelmed by their teaching duties that they hardly had any uninterrupted time for classroom research. This impediment however should not dampen the CAR central role. CAR remains key in finding solutions to the day-to-day classroom schedule. It should be appreciated that its implementation has to address a diversity of issues that include lack of time, human, financial and material resources; professional isolation; feeling of being overworked; unrealistic expectations and inadequate basal knowledge of the theoretical basis of CAR activities undertaken (Schulze, 2009). Furthermore, formal mentoring was acknowledged as one way of developing the requisite research skills in novice practitioner-researchers. Gazza (2004: 47) stresses that "It is not enough to say that a (CAR) mentoring programme is in place. Institutions must collect and review evidence regarding the effectiveness of a programme." The ultimate goal should be to make protégés (novice teachers)

independent and reflective teachers. In order to realise the above intent, novice teachers, according to Gazza (2004), need to demonstrate a high degree of commitment, competence and the ability to communicate well. It is evident that pre-service teachers' attitude and potential influence their development as effective teacher researchers.

According to Darling-Hammond, Wei and Andree (2010), the current international best practice is that nations are determined to improve their education systems by investing in teacher education. This seems to be in appreciation of the positive correlation between a nation's education prowess and its economic development. High achieving nations seem to be the flagships in this endeavour. Such nations are categorised on the basis of their position on international measures such as Programme for International Students Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS). Taking into account experiences of the majority of the thirty-four member countries of the Organisation for Economic Co-operation and Development (OECD), their school systems appear to be characterised by three overarching attributes that seem to matter most in realising high achieving education structures (Darling-Hammond, Wei and Andree 2010, Taber, 2009). First, the cooperating states deliberately ensure that the rightful teacher candidates are recruited. Recruitment of a teacher is not only determined by the fact that one has the requisite academic qualifications but high regard is made of one's general disposition, conduct in the neighbourhood and general attitude towards the teaching profession. Demonstration of a strong aptitude to work with learners remains central. Second, the initial teacher education curriculum has among a series of a teacher's knowledge, skills and competencies the need to effectively nurture pre-service teachers into effective reflective classroom practitioners. These teacher qualities, according to Altrichter, et al., (2008) are achieved by engaging pre-service teachers in classroom action research which fosters the student teachers to think critically about their day-to-day work. The authors acknowledge that it is through CAR that student teachers are given the opportunity to explore, reflect, resolve and report on classroom based teaching and learning strategies. Consequently, such reflective teachers tend to

influence high student achievement trends. Third, high achieving nations ensure that no child is left behind in their education delivery. Central governments in OECD member states (most drawn from the Northern Hemisphere countries) have instituted statutes that ensure that children have access to basic education.

Strategies are often put in place to ensure that the statutes are implemented, enforced and related funding provided. For instance, Kimmelman (2006) notes that in USA, there is unprecedented change occurring in education following the institution of the 'No Child Left Behind' (NCLB) Act of 2001. The author says that the Act was a reaction of the George Bush Administration to a seminal report *A Nation at Risk* that was published in 1985. The NCLB Act ensures that educators across the United States, at every level, focus on accountability, use of scientifically-based CAR, be data driven, and use standardised tests in an effort to realise improved student achievement (CUA, 2005). Most high achieving nations seem to testify that the pro-NCLB stance has been the catalyst for positive educational changes from kindergarten through to the 12th grade (K–12). However, the success of such inclusive education, driven by the international commitment to the policy of education for all (EFA), is widely agreed that it may only be realised if nations underscore the need to develop reflective teachers.

In Scandinavia, for instance, according to Darling-Hammond, Wei and Andree (2010:2), "...teacher candidates in Sweden, Norway and Netherlands now receive two to three years of graduate-level preparation for teaching, completely at government expense, plus a living stipend." The teacher preparation includes at least a year of internship at identified professional development schools coupled with extensive coursework in subject specific pedagogy and a CAR project based on an educational problem in the schools. The above scenario seems to be replicated in jurisdictions such as Chinese Taipei; Hong-Kong and Asian States such as Korea and Singapore. In most of the OECD member countries, it is becoming a norm that teaching is regarded as a graduate programme. Teaching is slowly becoming a Master's profession where CAR skills and competencies seem to be well entrenched. Both pre-

service and in-service teacher mentoring and induction are more or less mandatory in most high-achieving nations. Funds are also disbursed to schools that play host to pre-service teachers during their teaching practice.

In countries such as Australia, France, Greece, Israel, Italy, Japan, Korea, New Zealand and Switzerland, Taber (2009) posits that pre-service teachers and their mentors are afforded the opportunity to collaborate on CAR activities. The mentors in turn are deliberately trained, continuously, on how to mentor novice teachers and assist in their CAR endeavours. Mentor teachers, in recognition of the extra responsibilities, besides receiving further refined training and certification, the Singapore Government gives them additional monetary incentives. It can be deduced that in most OECD countries not all qualified teachers are regarded as mentors for student teachers. Mentorship is left to master teachers who would have been trained for such responsibility. In United Kingdom, Taber (2009) notes that such mentor teachers are developed through the nations National Literacy and Numeracy Strategies. The identified and developed Master teachers would then serve as complimentary coaches for pre-service teachers on effective pedagogy and CAR.

1.2.2 The regional context of classroom action research

The professional approach to teaching in high achieving nations seems to contradict with the situation obtaining in low-achieving nations, particularly in Latin America and Sub-Saharan Africa (SSA). In general, initial teacher education candidates in virtually all SSA countries are not state funded. Family members, more often, get into debt funding teacher candidates who eventually are not as professionally remunerated. In view of the above, one may safely conclude that teaching in low-achieving nations, particularly with reference to SSA, relatively, does not attract the best brains. Overall, such teacher ingredients would dent attempts to nurture reflective teachers who are the core of CAR driven education system. However, all hope is not lost as a general appreciation of the need to have teacher researchers, who are life-long problem solvers, seems to have been embraced by most education systems in SSA. The

appreciation is driven by an understanding that both teaching and learning are contextual. It is evident that ITEPD curricula in SSA have formally incorporated basic aspects of research training. This includes learning about the various types of research that informs education and their relative strengths and weaknesses. This includes learning how to carry out small scale curriculum depth-studies (CDS) which are a version of the classroom based enquiries. These are certainly testimony of CAR implementation. Nonetheless, there seem to be a dearth of literature on how CAR is implemented in SSA.

For instance, soon after attaining democratic independence in 1994, the South African government realised that the country's education system and teacher education in particular required reconceptualisation. The country's mean student achievement was said to be quite deplorable (Department of Education-DoE, 2006). In view of the above, the need to reconstruct an education system that would address the needs of the new democratic order was succinct. A new teacher education policy framework was one of the first strategies to be adopted in an effort to develop teachers who could effectively execute their life-long tasks. It was underscored that teachers were not trained to use the same knowledge and skills for the four or more decades they would survive in the classroom but to continually reinforce their professional competence and performance.

The South African national policy framework for teacher education was drawn from the findings of the Ministerial Committee on Teacher Education that was constituted in 2003 (DoE 2006). The Ministerial Committee recommended that the initial professional education of teachers (IPET) should nurture "a community of competent teachers dedicated to providing education of high quality" (DoE 2006: 5). In an effort to see the fruition of the foresaid recommendation, in line with the seven South African Norms and Standards of Educators propounded in 2000, it was reiterated that every teacher has to be a scholar and a life-long learner. This is opposite to the technical teacher who sees herself as a repository of knowledge that is to be distilled to the learners. The scholar and the life-long learner themes are the kernel of CAR.

The South African stance seems to be echoed by virtually all Southern African Development Community (SADC) member states. Nonetheless, it should be noted that agreeing to a SADC protocol on education does not immediately translate to the policy framework implementation. This explains the diversity of CAR implementation in the region.

Seemingly propelled by the CAR principle and international best standards, South Africa now regards Bachelor of Education Degree (B.Ed.) as the preferred initial teacher education qualification (DoE 2006). This is a basal four year undergraduate qualification with a compulsory classroom based research component and teaching practicum. An Advanced Diploma in Education (ADE) is also offered to graduates with appropriate first degree who wish to teach. The ADE is proposed to be an eventual replacement of the Post-Graduate Certificate in Education and the Higher Diploma in Education. To increase the uptake of teacher candidates, universities are allowed to offer a three-year teaching diploma that also has a CAR component. Overall, the SSA region appears to have a dearth of literature related to how CAR is implemented, hence the noted silence. Most education protocols end by mere mentioning of the need to incorporate teacher research in passing without any detailed explications.

1.2.3 CAR implementation strategies in Zimbabwe

Taking into account primary teacher education and development curriculum in Zimbabwe, it was evident that the development of research skills and competencies in pre-service teachers was long embraced and had evolved over time. One could justifiably deduce that Zimbabwe had no scarcity of blueprints on the development of teacher researchers (Ministries of Education, Sport and Culture and Higher and Tertiary Education, 2004). However, the question is on the implementation thereof. For instance, the teacher education curriculum in Zimbabwe demanded that CAR projects be submitted in partial fulfillment of the Diploma in Education requirements as a major component of Professional Development Studies (PDS). CAR projects implementation was supposed to be handled mainly by three collaborative departments, namely:

Professional Development Studies (PDS), Distance Education (DE) and Teaching Practice (TP). The PDS and TP departments had the responsibility to deliver research methods lectures to pre-service teachers during their initial residential period and initial stages of their practicum, respectively, for a minimum of 10 hours and two one-day workshops. The DE department then allocated students to prospective supervisors, based on their preferred subject areas with each lecturer allowed a maximum supervision load of 10 students, drawn from all the running intakes. The department demanded that students should identify a classroom-based teaching-learning area of concern during the first two terms of their practicum and find tentative intervention measures. CAR project reports were then submitted for assessment upon the students' return from teaching practice with the associated grade forming a major component of the final PDS score.

However, there seemed to be several challenges with CAR that pre-service teachers were experiencing, hence this study. For instance, the researcher observed with concern, as part of the University of Zimbabwe (UZ) Department of Teacher Education (DTE) external examiners that year-in and year-out, dozens of prospective PDS distinction pre-service teachers faltered on the last hurdle, mostly due to low percentage pass-marks obtained in their final year CAR projects. For instance, report by one Chief Examiner revealed that out of the 268 candidates presented for examination in the diploma in primary education course at Zimbabwe Teachers' College (pseudonym) in 2013, 20 candidates failed and 12 were deferred. A total of 36 candidates in this cohort achieved distinctions in the various sections, that is, 12 in Teaching Practice (TP), 23 in Academic or Main Subjects and one in Theory of Education (TOE). No distinction was recorded in Professional Development Studies (PDS). Consequently, there was no candidate who passed the diploma programme with an overall distinction. Mediocre percentage pass rates of 50-65% characterised PDS mainly due to mediocre scores obtained in CAR reports submitted in PDS Syllabus C (PSC). The seemingly gloomy trend was replicated in several other Chief Examiners' Reports (Bwerazuva, 2013; Muthivhi, 2013; Matimati, 2006; Nyabanyaba, 2013). Questions were thus raised on whether CAR project writing was complex,

intricate or phobia abound, as was the case with subjects such as Mathematics, Physics and Chemistry at senior high school. Furthermore, colleague lecturers seemed to belittle the entire CAR delivery process calling the project reports no research at all.

Experience by the researcher as a classroom practitioner, school head and teacher educator in Zimbabwe, demonstrated that the country's teacher education and development curriculum, in general, appreciated that teaching was a lifelong commitment (as previously stated) that required lifelong learning or continuous professional development (CPD) in virtually all professional aspects, such as, values, skills, competencies, knowledge, ideas, norms and roles. CPD, especially through CAR opportunities, on face value, was considered to be the bedrock of instruction (Brown, 2002; Ellis, Armstrong and Groundwater-Smith, 2010). Experience as a teacher educator, both as an external assessor and as a lecturer in PDS, as has been alluded to above, seemed to have left the researcher with several questions that border on the capacity of the country's teacher education and development curriculum to justifiably develop pre-service teachers with the requisite CAR skills and competencies. A drive thus arose to understand the implementation of classroom action research in selected teacher education colleges in Zimbabwe as it was not clear on what was taking place on the ground. The intention was to propose alternative CAR strategies that might be implemented in teacher education colleges in an effort to develop a more feasible teacher education and development curriculum.

1.3 Statement of the research problem

It should be appreciated that the Zimbabwean Government reconstructed several educational reforms since the attainment of political independence in 1980. The reforms were met with a diverse of success stories. One such reform was the adoption of the 2-5-2 initial teacher education and development model in primary school teachers' colleges with emphasis in research methods tuition, aimed at the production of more reflective teachers. However, as discussed in the background of the study, the

way CAR was being implemented in teachers' colleges in Zimbabwe seemed to have been shrouded in a plethora of shortcomings. There seemed to be several grey areas with regards to the CAR experiences pre-service teachers underwent. For instance, the researcher observed with concern, as part of the University of Zimbabwe Department of Teacher Education (UZ DTE) external examiners that year-in and year-out, dozens of prospective PDS distinction pre-service teachers faltered on the last hurdle, mostly due to low percentage pass-marks obtained in their final year CAR projects. The seemingly problematic scenario was persistently echoed by a gamut of reports produced by the UZ-DTE chief examiners and those generated by the department's Board of Studies (UZ-DTE, 2015). Questions thus arose on whether CAR project writing was complex, intricate or phobia abound, as was the case with subjects such as Mathematics, Physics and Chemistry at senior high school. Furthermore, colleague lecturers seemed to belittle the entire CAR delivery process calling the project reports no research at all. It was against this background that this study sought to establish how CAR was implemented in selected Zimbabwean teacher education colleges, as it was not clear on what was obtaining on the ground.

1.4 Research questions

The concerns mentioned above gave rise to subsequent research questions which the researcher attempted to answer:

1.4.1 Main research question

How was CAR implemented in selected Zimbabwean teacher education colleges to ensure a more practical teacher education and development curriculum?

1.4.2 Sub-research questions

The following are the sub research questions:

- a. What was the capacity of college lecturers in the delivery of CAR?

- b. Which strategies were used to implement CAR in teacher education colleges?
- c. What support systems and resources were available in teacher education colleges to enhance the delivery of CAR?
- d. What were the implications of the observed CAR delivery system to the development of an enhanced teacher education and development curriculum?

1.5 Purpose of the study

The purpose of the study was to explore and understand the implementation of classroom action research in two public teacher education colleges in Zimbabwe, and determine the associated educational implications to enhance a more feasible pre-service teacher education and development curriculum.

1.6 Objectives of the study

The main objective of this study was to examine how CAR was implemented in the selected teacher education colleges. This study further sought to do the following:

- Establish the extent to which college lecturers were themselves professionally equipped to develop in pre-service teachers skills and competencies required of an eventual teacher researcher.
- Determine the different strategies that were used in implementing CAR in teacher education colleges.
- Find out support systems and resources available in teacher education colleges to foster the delivery of quality CAR.
- Propose alternative CAR strategies that might be implemented in teacher education colleges in an effort to develop a more feasible teacher education and development curriculum.

1.7 Significance of the study

The researcher's interest in the topic was prompted by his experience as a teacher educator and an external examiner for Professional Development Studies in several Zimbabwean teacher education colleges where pre-service teachers did not do so well, perennially, in their final year CAR projects. Review of related literature demonstrated a paucity of studies in the Zimbabwean context which examined the CAR concerns, particularly from the teacher educator and pre-service teacher perspective. This study thus sought to add to the scarce literature and add the voices that have been silent in the development of teacher education curriculum.

Literature on CAR process seemed abound but that on its implementation in teacher education colleges, particularly involving pre-service teachers' and lecturers' perceptions and capacity appeared quite scarce. The paucity was in spite of the appreciation of the premise that teacher research should be the norm in an environment where classrooms are characterised by heterogeneous learners, particularly in this age of information explosion (Arias, 2007; Rock and Levin, 2002; Rossouw, 2009). The study thus focused on an area that had not yet been sufficiently addressed. In that view, the research findings were likely to be essential to different stakeholders in teacher education. These included educational policy makers, educational planners, teacher educators, student teachers and in-service teachers. This study intended to make the difference by questioning the capacity of teacher educators in the delivery of CAR and educational implications thereof.

Overall, the study intended to add to the knowledge base of both teacher educators and policy makers, on areas that required emphasis if a teacher researcher was to be nurtured by the current teacher education and development curriculum. Findings of this research sought to provide college principals, lecturers-in-charge (LICs) of departments and lecturers (teacher educators), relatively, with alternative strategies on implementing CAR delivery. Furthermore, the study aimed to bring with it an additional teacher's voice into the CAR discourse and contributed to the knowledge

base of teaching. While it could be readily deduced that CAR inclusion had been embraced by most initial teacher education and professional development (ITEPD) systems, it should be stressed that the purposeful use of any curricular reform occurs in some historical or structural context (Chikwa, 2012). This demanded that CAR should be examined not only in terms of its curricular aspirations and intended purpose but also in terms of its actual application and consequences.

It should be underscored that the study explored CAR achievements and constraints that needed to be reinforced or corrected, for the attainment of ITEPD curricular objectives. That way, it sought to contribute to the existing body of knowledge, with regard to the implementation of CAR in Zimbabwean colleges of education. Issues of centralisation, vis-à-vis decentralisation, transparency, quality and accountability were brought into focus. The study also probed CAR policy provisions and their implementation. This implies that the study's other core significance was to inform decision-makers of strategies to adopt for effective CAR policy implementation. Overall, the study aimed to bring to the fore evidence on the capacity of college lecturers and student teachers in the CAR delivery process. Although the study made particular reference to primary school college lecturers and students, secondary education stakeholders in similar circumstances in Zimbabwe and beyond, particularly in Sub-Saharan Africa (SSA), might find some of the research findings and issues discussed of value. This comes against the backdrop that in spite of every research being unique in some aspect, its results and concerns may be generalised to similar circumstances though in a different context (Casey, 2012; Cochran-Smith and Lytle, 2009).

1.8 Assumptions of the study

The conduct of this study was guided by three prong assumptions. First it was assumed that prospective participants were knowledgeable about the problem under probe. It was assumed that they would voluntarily consent to be data informants during the study and that they would honestly, trustworthily and accurately share their

experiences and perceptions with regard to the implementation of classroom action research (CAR) in the identified teacher education colleges in Zimbabwe.

1.9 Delimitation of the study

The study focused on gaining in-depth understanding of the implementation of CAR in primary teacher education colleges in Zimbabwe. Exclusion was made of the secondary teacher education colleges in the country. The exclusion was attributed to the fact that the researcher was more familiar with the primary teacher education colleges' operational terrain and the associated Professional Development Studies' curriculum. The study was limited to two out of the 11 primary teacher education colleges in Zimbabwe in order to provide an in-depth interrogation of the goings-on, with particular reference to CAR implementation. The two colleges used had a long established tradition of having implemented the 2-5-2 teacher education curriculum for more than three decades. They both placed emphasis on pre-service teachers' production of CAR projects and underscored the principle of on the job training. However, it should be reiterated that due to constraints of time, financial and human resources, confinement was made to participants drawn mainly from two primary colleges of education. The research participants were drawn mainly from the following teacher educators: Vice-Principals; LICs and Lecturers mainly drawn from these departments: PDS, Distance Education (DE) and Teaching Practice (TP) and final-year student teachers drawn from the two teachers' colleges. Additionally, several lecturers from the UZ-DTE served as valuable data informants.

1.10 Definition of key terms

The terms below were defined as used in the study:

Implementation denotes putting into action plans and systems related to CAR (Kennedy, 2005). Implementation in this study was synonymous with operationalisation, i.e. putting plans into action.

Classroom action research (CAR) is a process where teachers investigate their work (Altrichter, et al 2008). It is teacher or practitioner research. It denotes systematic, intentional and critical inquiry carried out by a teacher to find solutions to instructional concerns (Cochran-Smith and Lytle, 2009; Leavitt, 2010). CAR is thus reflective inquiry in which a teacher systematically, intentionally and critically inquires on an educational problem that besets day-to-day practice of teaching.

Teacher Education College (TEC) is an institution of higher learning whose major role is the preparation of pre-service teachers and confers Diploma in Education upon completion of the initial teacher education and professional development cycle. It was used interchangeably with the terms college of education and 'teachers' college' (Kronman, 2007).

Curriculum is defined as all learning experiences learners undergo that are planned and guided by an educational institution (school), for the attainment of specified educational goals (Wiles, 2009).

After defining key terms to the study, the following section outlines how the study was arranged in chapter form.

1.11 Chapter outline

This study was reported in six interrelated chapters as is explained below:

Chapter One: Background of the study

This chapter outlined the background of the study in relationship to the problem under investigation. The section further summarised the statement of the research problem, the purpose of the study and significance of the study. Research questions as well as objectives of the study were also explicated. The essence of the study, assumptions, delimitation for the study and definition of key terms were also outlined in this first

chapter.

Chapter Two: Conceptual, theoretical framework and literature review

The second chapter was sub-divided into three main discourses. It started off by interrogation the concept of CAR, its evolution and the CAR process in general. Two theories upon which the study was underpinned were discussed and their adoption justified. The two theoretical frameworks are the experiential learning theory and the curriculum implementation framework. The third section reviewed literature relevant to the study. Literature review focused on what preceding scholars have written with regards to the problem under probe, guided by the foresaid research questions and theoretical frameworks. Also discussed were a series of major criticisms against the educational research genre. These CAR inadequacies are summarised as time related; inadequacy of funding; questionable research credibility; paucity in basic research skills and competencies; non-generalisability of the action research results; messy data presentation and rather confusing rhetoric (Ellis, Armstrong, and Smith, 2010; Hine and Lavery, 2014b; Waters-Adams, 2006).

Chapter Three: Methodology

The third chapter delineated and discussed the methodological procedures employed in the study. The research paradigm, approach and design are here explained and justified. Merits and demerits of the adopted research instruments were interrogated and the research process was explained in detail to foster replicability and enhance research validity and reliability. The study's population, sample and sampling procedures, ethical considerations as well as measures to ensure reliability, validity and trustworthiness were herein discussed.

Chapter Four: Data presentation and analysis

Chapter Four focused on data presentation, interpretation and analysis. All data collected through a series of research instruments, namely: semi-structured questionnaires, semi-structured interviews, focus groups and documents were thus presented and analysed. Detailed descriptions of participants were made in this

chapter. Quantitative data were presented using frequency tables, graphs and pie charts. Qualitative data, on one hand, were analysed through content analysis by coding and data categorisation. Verbatim citation or snippets were made in the analysis of qualitative data. Ultimately, research findings were presented in narrative form and tables. Both data presentation and discussion were thematic.

Chapter Five: Discussion of findings

This chapter discussed the research findings in an attempt to decipher the predominant learning areas with regard to the implementation of CAR in the colleges of education. The discussion of the research findings was organised along gleaned themes that were matched with the sub-research questions. The reporting style was adopted in an effort to ascertain the extent to which the investigation addressed its intended sub-research questions. This was in adherence to the exhortation made by Foss and Waters, (2007) that no research warrants recognition if it fails to address associated research questions and sub-research questions. The discussion focused on major research findings generated from the preceding statistical and qualitative data, in relationship to the reviewed literature and theories underpinning the study.

Chapter Six: Summary, conclusions and recommendations

This final chapter summarised the research findings drawn from the gathered data. The summation was done in tune with the identified themes, in relationship to the sub-research questions. Conclusions and recommendations were made and their educational implications to implementation of CAR in initial teacher education and development curriculum in Zimbabwe discussed. Opportunities for further research were suggested in the chapter.

1.12 Summary

This chapter gave an overview of the inquiry by outlining the background of the study. The world and regional overview of Classroom Action Research, as well as the Zimbabwean context were discussed in an effort to bring the study into context. In this

chapter, the researcher justified the enquiry through outlining the significance of the study and its delimitations. He further provided operational definitions of key terms, that is, as used in the context of the study. A concise outline was made of the contents of each of the six chapters that constitute the study. The next chapter focuses on the analytical review of related literature so as to have an insight into the overall conception of CAR, what is known of CAR in relationship to initial teacher education and professional development, associated CAR criticisms and relative significance. Three theories upon which the study was underpinned are discussed and their adoption justified. This was done to lay a firm foundation upon which the entire study is rooted.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This second chapter focused on the analytical review of related literature in order to provide an insight into the overall conception of CAR, what is known of CAR in relationship to initial teacher education and professional development, associated CAR criticisms and relative significance. Three theories upon which the study was underpinned were discussed and their adoption justified, putting across a firm foundation upon which the entire study was rooted. This literature review chapter was sub-divided into three main discourses. It started off by discussing the concept of classroom action research (CAR), its evolution, the CAR process in general and the various models thereof. Further interrogated was the rationale for CAR implementation with particular reference to initial teacher education and professional development.

An examination was made of the merits and demerits of the implementation of CAR together with the associated implementation constraints and criticisms. Major criticisms against the educational research genre were summarised as time related; inadequacy of funding; questionable research credibility; paucity in basic research skills and competencies; non-generalisability of the action research results; messy data presentation and rather confusing rhetoric (Ellis, Armstrong and Smith, 2010; Hine and Lavery, 2014b; Waters-Adams, 2006). Three theories upon which the study was underpinned were discussed and their adoption justified. The three theoretical frameworks were the experiential learning theory, the curriculum implementation framework and the living educational theory. The three theories had a strong bearing on reflective practice which is the kernel of classroom action research. The three frameworks were also inspired by critical theory and postmodernism (Mills, 2003). Postmodernism denotes that truth can be socially constructed by a particular social formation under particular experiential circumstances. The paradigm fosters

educational action researchers to systematically, deliberately or intentionally and critically explore their practices and then reflect on tentative transformations hitherto. The third discourse reviewed the standing CAR framework in Zimbabwe's initial professional education of teachers and empirical CAR implementation inquiries relevant to the study. Focus was made on what preceding scholars have written with regard to the problem under probe, guided by the associated research questions and theoretical frameworks.

2.2 Classroom action research conception

The conception of classroom action research (CAR) appears quite problematic as is the case with most educational concepts. Different authors seem to have different definitions of CAR. Convergence seems to appear on the major themes running through the CAR process. Brown (2002) posits that the CAR process has outstanding components that resemble the major assumptions of adult learning in general. He notes that CAR provides a disciplined process of critical reflection, meaningful experiences, and self-directed inquiry. Emphasis on systematic action research process denotes that CAR is a cyclical step-by-step process. According to Danielson and McGreal (2000), CAR gives pre-service teachers the opportunity to explore problems that bedevil their day-to-day instructional responsibilities and triggers them to come up with tentative educational solutions. Most often CAR is perceived to be a collaborative initiative that calls for educational practitioners to work as a team in designing the best strategies they may undertake in finding a solution to problems in their classrooms. The overarching purpose of CAR implementation is to refine the current teaching practice.

The terms classroom action research (CAR) and teacher research or practitioner research are often used as synonyms. The term self-study, according to McNiff and Whitehead (2002), is also used interchangeably with CAR. Cohen, Manion and Morrison (2007) state that CAR combines diagnosis, action and reflection on somehow problematic classroom issues that have been singled out by practitioners. The

identified classroom issues should not only be problematic but capable of being changed through a self-reflective process of critical inquiry that is systematic and is eventually made public. The overarching perception is that CAR is systematic, intentional and critical inquiry carried out by the teacher (Cochran-Smith and Lytle, 2009). Simms (2013) emphasises that CAR is often not a one man band. The process often uses collaboration and collective problem solving strategies aimed at changing organisations or organisational practices. It is also contextual or situational.

2.3 Evolution of classroom action research

As professionals in social sciences and the humanities began to be involved more in investigating their practices, they realised overarching mismatch in continual use of research methodologies that befit pure sciences or scientific research. Consequently, an alternative research approach was conceived by professionals such as Lewin (1948), according to Campbell (2012) and Carr and Kemmis (1986). The term 'action research', according to Campbell (2012), was coined by Kurt Lewin, who is generally acknowledged to be the 'father' of classroom action research. The author further states that the term action research first appeared in Lewin's works in the 1930s and evolved over time. Lewin is said to have asserted that whenever teachers see the need to change phenomenon they take action and eventually adopt new behaviours. Action research is based on the premise that human behaviour is rational. The behaviour is not a mere response to the social or physical constructs surrounding humanity but is also influenced by one's psychological disposition, as one makes sense of the prevalent circumstances. Since its conception in the 1930s, action research has been acknowledged as a research methodology and has been refined by different theorists around the globe (McNiff, 2010; Mills, 2014; Whitehead, 2008; Waters-Adams, 2006). Brown (2002) asserts that Schon (1983) refined action research into reflection-in-action which involves thinking, acting and reflecting.

In view of the foresaid, CAR is educational inquiry in which a teacher systematically, intentionally and critically investigates an educational problem that besets one's day-

to-day practice of teaching. The main outstanding feature of CAR, it is here reiterated, is that the teacher researcher often collaborates with the people they are studying. CAR thus empowers the researcher to ultimately produce some beneficial change to instruction (Berg, 2007, McNiff, 2010). It uses a cyclical action–reflection model of inquiry. The cycle, in brief, involves problem identification; systematic data collection; reflection, built into practice and analysis of findings. Ultimately, discoveries are disseminated to enable the sharing of results with colleagues, administrators, the community and the profession (Kosnick and Beck, 2000). The CAR process, according to Ginns, et al, (2001:129) “empowers teachers to examine their beliefs, explore own understanding of practice, foster critical reflection and develop decision making that would enhance their teaching and help them assume control over their respective situation.” CAR is thus reflective inquiry conducted by teachers about own classroom practice. It is practitioner inquiry that enables teachers to reflect systematically, intentionally and critically.

2.4 Reflection in classroom action research

Classroom action research is perceived as a genre of the continuous professional development (CPD) process that fosters and develops the skills and competencies of classroom practitioners such that they become more reflective practitioners. The process calls for methodical problem solving and thoughtful decision making (Sagor, 2000). The author asserts that reflection made by teachers on their day-to-day classroom experiences certainly informs the next day’s instruction and eventually results in excellent mastery of the demands of teaching. This could have compelled several educationists to acknowledge the vitality of teacher introspection in their practice. Many educationists, for instance, Brown (2002), Danielson and McGreal (2000) and Whitehead (2006) concur that CAR provides a structured, systematic and disciplined approach to reflecting on the teaching and learning process. Danielson and McGreal (2000:24) states, “Few activities are more powerful for professional learning than reflection on practice.” The authors view reflection as thinking through what one is doing while doing it. It denotes critically thinking about one’s actions during and after a

curricular opportunity. CAR helps classroom practitioners, their mentors and policy makers to have an in-depth comprehension and reconstruction of their educational values, beliefs, skills, knowledge, ideas, norms and roles. Thus, teachers gain a deeper understanding of what they already know through reflective practice which is the kernel of CAR. Danielson and McGreal (2000:48) underscore the significance of reflection for continuous professional education and development, and state, “The very act of reflection, it appears, is a highly productive vehicle for professional learning.”

2.5 Classroom action research in education

Classroom action research conditions the teacher researcher to be reflective, with the view of taking informed action (praxis) to answer the research question – *How do I improve my work?* (Whitehead, 2008). This perspective differs from the traditional views of teacher education, which view initial teacher education and professional development (ITEPD) as mere training. Traditionally, teacher educators were regarded as unquestionable educational experts who inculcated in student teachers professional advice. The new perspective, adopted by the CAR model, designs ITEPD programmes on the understanding that teacher candidates have some rudimentary knowledge on what teaching involves which is refined during their initial teacher education. Having developed some basic professional knowledge, it is assumed that pre-service teachers become capable of learning for themselves. McNiff (2010) notes that what the pre-service and novice teachers require is appropriate support systems, to help them develop further what they would have learnt and also generate new knowledge. The new knowledge is often generated through dialogue of equals, that is, colleague teachers who share equal instructional interests and educational concerns. In such a set-up, no one in some authoritative position would distil one’s ideas with regard to the teaching-learning process. The enthusiasm of enquiring about how best to improve one’s work, according to McNiff (2010) implies a social intent. The intention is that a professional improves their work for their benefit and that of others. Once a teacher improves on being self-critical, the probability is high that the practice will cascade down to the learners (Whitehead, 2006; Cochran-Smith and Lytle, 2009). In the same

mould, a reflective teacher educator or lecturer is assumed to positively influence the student teachers with whom he or she interacts. All things being equal, it should be every lecturer's responsibility to aim to influence pre-service teachers for the better. The idea of influence thus permeates the CAR process. This comes in the wake that most ideas the world celebrates were influenced by someone else. It is here affirmed that knowledge is dynamic. It evolves through learning from significant others and reconstructing existing knowledge in alternative ways.

In view of the above, CAR methodology denotes continual evaluation of one's work. The intention is to check constantly whether what one is doing is really working. It involves positively influencing one's practice. In the absence of CAR one may spend the entire working life treading on the same error. Therefore, self-evaluation promotes responsibility for one's own thinking and action, so is the accountability premise, which stresses on the need to give good service and to attend to the needs of others in the way that is best for them (McNiff, 2010). CAR is not meant to test ideas by trial and error but to take systematic, deliberate and critical action that is pre-determined to minimise teaching – learning blunders. This vitality and perverseness of CAR must have inspired many teacher educators and practitioner researchers to conduct research on their own practice. They acknowledge that CAR is a process that gives credence to their professional development's prowess in reflection, discussion, decision making and practical action, particularly, participating in collective CAR on educational concerns that are shared by most of them (Mills, 2003). In view of the above, it was the purpose of this study to establish the extent and with what sincerity the sampled teacher educators' appreciation of their role in enabling their protégés to make informed decisions about their practice and students' general performance to enhance learning.

2.6 Methodological applications of classroom action research

Educationists concur that CAR is subjective as its methodology is determined by the individual teacher researcher. In that view, it would be futile to attempt to provide a

philosophical framework that would take into account virtually all CAR studies. This probably explains why educators conduct action research using a variety of design models. According to Mills (2003), educators tend to use three main models. The author notes that the Americans tend to espouse the progressive education movement as is conceptualised by John Dewey and the British lay emphasis on curriculum reform and increased teacher professionalism. The Australians, on one hand, seem to espouse collaborative curriculum planning. Consequently, three methodological applications of CAR seem to have dominated contemporary educational research. These are emancipatory action research, technical action research and practical action research. Emancipatory action research, also known as critical action research is inspired by critical theory and postmodernism (Mills, 2003). The theory is committed to democracy in education aimed at seeking new knowledge in education reform in defiance of the traditional bureaucratic tendencies. Postmodernism notes that a truth can be socially constructed by a particular group under particular experiential circumstances. It enables educational action researchers to systematically, deliberately or intentionally and critically explore their practices and then to reflect on possible transformations hitherto. This eventually leads to practical change that should be applied, in the shortest possible term, leading to bridging the gap between theory and practice.

The proposed educational solutions are tested and analysed for professional ethics, validity, reliability and trustworthiness prior to further reflection (McNiff, Lomax and Whitehead, 2003). The process occurs through the cycles of planning, acting, reflecting and changing (action). Technical action research on one hand tends to espouse a scientific approach in solving educational concerns. It is concerned with establishing say the cause and effect relationship of educational phenomena. However, educators seem to concur that research methodologies that are too scientific in nature are not always relevant to solving educational problems. This is attributed to the fact that education is a complex phenomenon that is ever changing. This thus warrants educators to select alternative research methods. Furthermore, in practical action research the researcher focuses on the 'how-to' and 'how do I' research

questions (Elliott, 1991, in Brown, 2002). Therefore, CAR advocates believe that knowledge can be socially constructed through emancipatory, technical and practical persuasions. In view of the above, it can be deduced that there seem to be no single educational theory that is universally accepted that it guides CAR. Most CAR studies are guided by the desire to explore 'How one improves his or her teaching practice in a given curricular activity or study area' (Cochran – Smith and Lytle, 2009; McNiff, 2010; Whitehead, 2008).

2.7 Classroom action research models

The next section of this chapter describes the three major models of CAR, namely: the Kemmis and McTaggart Model, Sagor Model and Calhoun Model (Table 1). The three models are all cyclic and outline a CAR process of five interrelated stages. In spite of the models having some noticeable disparities, they concur on the occurrence of the data collection and analysis stages, plus taking on action on an identified curricular concern. It can be deduced that each CAR model is a variance of a five-step process. The table shows that although each of the three models uses different terms for most of the stages, this appears to be a matter of semantics. Each of the models involves the utilisation of data to act upon an identified focus area of inquiry or educational concern. CAR, in accordance with the three models, is a cyclic or spiralling process that involves problem identification or planning, acting, data collection, observation, reflection, data analysis, taking action, reaction and evaluation. It should be emphasised that the processes are done systematically, deliberately or intentionally and critically but in a more autonomous way.

Table 2. 1 Five Step Models of Classroom Action Research

	Kemmis and McTaggart Model	Sagor Model	Calhoun Model
Step 1	Planning	Problem Formulation	Selecting the Area of Focus
Step 2	Acting	Data Collection	Collecting Data
Step 3	Observing	Data Analysis	Organising Data
Step 4	Reflecting	Reporting of Results	Analysing and Interpreting Data
Step 5	Re-planning	Action Planning	Taking Action

Source: Adapted from Brown (2002:11)

2.7.1 The Kemmis and McTaggart model

The above model, as is suggested by its name, was proposed by two Australian educationists Kemmis and McTaggart (1990). They developed a five-step process of classroom action research. The five sequential steps are planning, acting, observing, reflecting, and re-planning (Table 2.1). First a researcher is supposed to come up with a hypothetical plan on how one will address or change a specific educational concern. In planning, a researcher develops and outlines the research question and sub-research questions. In the action stage, the second step, the researcher implements several strategies that may lead to finding solutions to the specified sub-research questions. In the third step, the researcher records specific aspects for a number of lessons. Any discernible trends are noted. The fourth step, reflecting, is where reflection on the planning, action and observations is made. The adequacy of the preceding steps and constraints are noted. The systematic reflection is followed by re-planning. This is tantamount to getting back to the drawing board armed with feedback from the preceding reflection. The researcher revises the initial research design and

re-plans informed by the gathered data, and then continues through the spiral of acting, observing and reflecting. According to this model, it is noticeable that the CAR process is an intentional, results-oriented inquiry that is group or personally owned and directed. Kemmis and McTaggart (1990), in McNiff (2010), state that the merger of the terms action and research underlines the main features of CAR. CAR is conceived as a systematic research process for teachers by teachers in an effort to take action on ideas in teaching practice and to improve the instructional processes. In that view, the investigation intended to establish the perverseness of the explained CAR models in Zimbabwean teacher education colleges.

2.7.2 The Sagor Model

Meanwhile, the Sagor Model of CAR was propounded by Richard Sagor, an assistant professor of Education at the Washington State University. Sagor (1992) proposed that the CAR process has five interlinked steps, namely: problem formulation, data collection, data analysis, reporting of results, and action planning. In the first step a teacher researcher identifies the area of concern. Second would be data collection, which demands that at least three sets of data are collected to ensure that research findings are made more credible. Comparison of independent sets of data is also made possible. According to Sagor (1992), the data collection process is the pivot of the entire CAR process because it enables interrogation of an instruction concern through a diversity of lenses. Collected are data analysed in the third step. It is during this stage that the researcher looks for thematic patterns or trends and draws up conclusions. The fourth step is concerned with dissemination of research results to significant stakeholders. The education profession benefits the most from CAR during the results dissemination period. It is thus recommended that teacher researchers, pre-service teachers included, should be given the opportunity to showcase their new knowledge, skills and competencies through reporting CAR findings to an audience of colleague classroom practitioners. During the final step of action planning, the teacher researcher draws a suggestive plan on how best to relook at the initial research problem in an attempt to further develop the prevalent

pedagogical practices. The following section is a discussion on the Calhoun model of CAR.

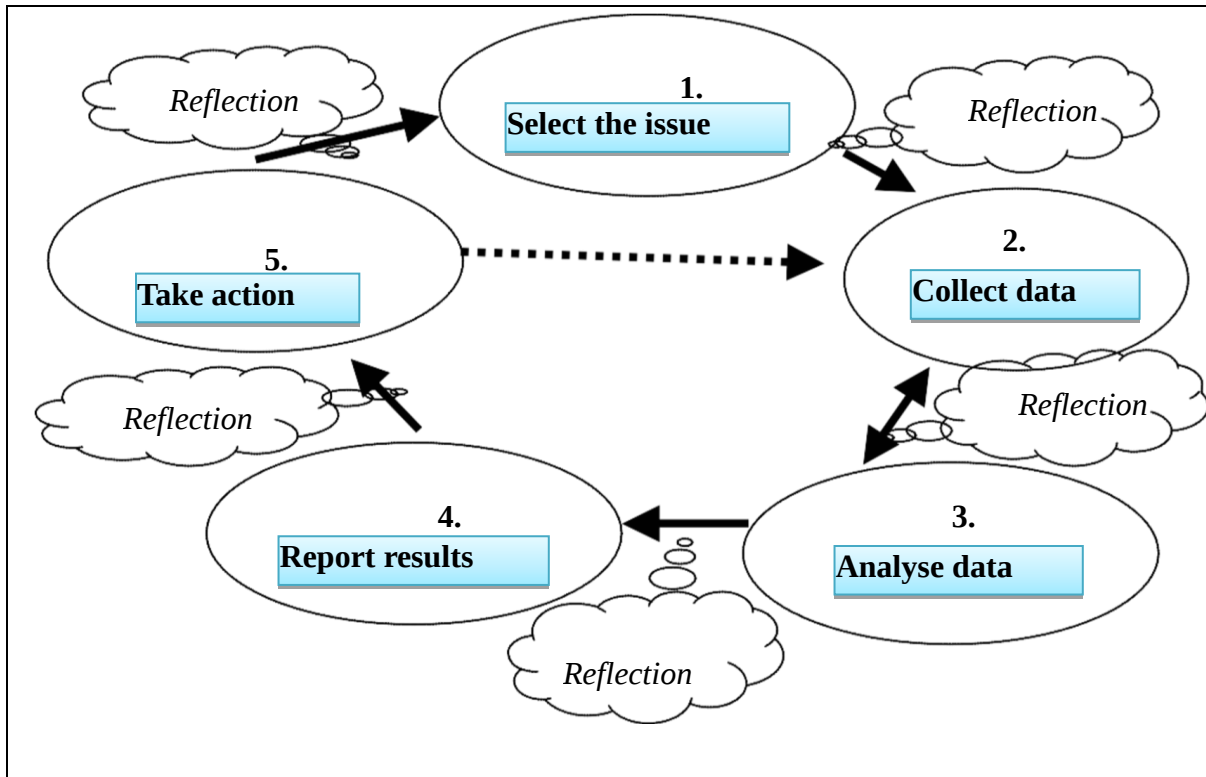
2.7.3 The Calhoun model

The Calhoun model was propounded by Calhoun (1994). The educationist provided analysis to school districts, state agencies and regional agencies that were committed to improving learner achievement through investing in continuous professional development opportunities at school level. Calhoun is a practitioner with proven track records at both the elementary and high school levels. She perceives CAR as a sure way of fostering curricular reforms through say shared decision-making within a school environment. Calhoun's process involves five sequential steps, namely: selecting the area of focus; data collecting; organising data, analysing and interpreting the data, and taking action. Calhoun (1994) states that engaging in CAR involves progressing through the following steps of inquiry: choosing a focus area, studying professional literature, best practices, collecting and analysing data and taking action. Seemingly in congruency with Sagor (1992), the author disputes the general notion held by most teacher educators that CAR does not require review of contemporary literature. It is such critical reading that provides the teacher researcher with the basis and theoretical framework for further study. The model's other significant tenet is that of fostering reconstruction of mainly instructional skills and techniques through information sharing within a school environment. Consequently, guided by a skew towards the review of relevant literature, it was the purpose of this study to establish the extent to which the preservice teachers' project reports demonstrated their being informed by the relevant literature.

2.7.4 The Eclectic CAR model

In her CAR inquiry on improving teaching practices through CAR, Brown (2002) proposed an eclectic five-phase CAR model. The model (Figure 2.1) integrates steps from each of the three models discussed above (Table 2.1) and adds the

process of reflection as a deliberate step that occurs throughout the entire CAR process. The author stresses that it would be futile to regard reflection as an end or in-between the stages of the research process. The eclectic action research process is defined in Figure 2.1 below.



Source: Brown (2002:14)

Figure 2. 1 Eclectic classroom action research model

As has been stated before, Brown (2002) integrates the five CAR reflective steps espoused by most educationists to deliberately encourage the pervasiveness of reflection in all action research phases. She states that reflection helps the action researcher to make more informed decisions about every aspect of an enquiry without waiting for terminal or summative reflection. Adopting such a stance would be tantamount to an army general who waits until the end of the war to reflect on the combat prowess of one's troops, when the damage would already have been done. Brown (2002) stresses that it would be important for an action researcher to always reflect on the direction the cycle is moving, that is, forward to the next step

and backward to the previous step, or stay within the same step. That having been explained the next section of the discussion turns to challenges that tend to characterise the implementation of CAR in teacher education colleges.

2.8 Impediments to implementation of classroom action research

Despite acknowledging that CAR fosters self-improvement of teachers' instructional skills and competencies, the process faces a series of impediments in its implementation from the days of initial teacher education and development through to real teaching service. CAR critics have put forward a gamut of major criticisms against the educational research genre. These are summarised as time related; inadequacy of funding; questionable research credibility; paucity in basic research skills and competencies; conflicts between researching and teaching roles; non-generalisability of the action research results; messy data presentation and rather confusing rhetoric (Hine and Lavery, 2014b; Waters-Adams, 2006; Ellis, Armstrong and Smith, 2010).

2.8.1 Time inadequacy

Time inadequacy is echoed by several authors as one of the worst impediments to conducting action research. It is emphasised that engaging in CAR requires an increase in commitment time to an already overwhelmed teacher. The idea is consolidated by Cochran-Smith and Lytle (2009) who lament that unlike other professions such as engineering, medicine and law which are organised to support research activities, most research in teaching is done on the go with very little time for say data collection, reflection, literature review or sharing of research findings with colleagues, let alone other significant stakeholders. This is attributed to the inadequacy that teaching tends to be a profession of time scarcity. Classroom practitioners are believed to be already overburdened professionals, taking into consideration the high volumes of marking loads, lesson preparations, lesson evaluation and the administration of remedial tuition to deserving learners. Teacher research, no doubt, would require more rigour, space and time which appear rather scarce. Involvement in

research would thus be perceived as an unnecessary burden. This is further exacerbated by the fact that the school agenda is distilled primarily from outside forces (Neapolitan, 2000) giving little room for teachers to engage in some pedagogical experiments. If the standards movement, that is, teaching to the test, is taken into cognisance, the potential of action research is diluted as performance would be results based. In this view, it would be difficult for a teacher to maintain rigour in data gathering and critique at the neglect of high learner output levels. One informant in Ellis (2012: 285) states, “For the ordinary teacher at the coalface, I think they are grossly overworked that they barely have time for anything, let alone the reflective (CAR) cycle.” However, considering the benefits both a teacher and learners accrue by involvement in classroom-based action research, not making time for such an empowering endeavour is certainly a lost opportunity. In that view, it was the object of this study to establish the extent to which time paucity was pervasive in CAR implementation in Zimbabwe.

2.8.2 Inadequate funding

Inadequate funding was one other major impediment to the conduct of CAR with high frequency. Research funding was said to be more systematic, deliberate and popular in developed countries, particularly, the OECD states. In such economies, funds were deliberately channelled towards classroom inquiry. For instance, Ellis (2012) reports that the Australian Government’s Quality Teaching Programme had a considerable effect to the conduct of classroom research as teacher researchers were handsomely incentivised for the commitment. Such teachers were also funded to share their research outcomes with teacher colleagues in and around their employment region. Zimbabwe being a developing economy, one would be interested in ascertaining the central government’s enthusiasm in funding classroom inquiry particularly in ITEPD.

2.8.3 Research credibility or trustworthiness

Classroom action research is carried out by classroom practitioners with the desire to

find intervention measures on issues bedeviling their practice of teaching. It is thus conducted by interested parties, making it rather skeptical to accept results thereof without a pinch of salt. Waters-Adams (2006) observes that this has led to criticisms of the credibility of the research process, with accusations of inevitable researcher bias in data gathering and analysis. However, he further notes that the justification for action research, in general, counters this criticism by suggesting that it is impossible to access practice without involving the practitioner. Action in educational practice is naturally informed by values and aims which are not fully accessible from the outside. The practitioner, according to Waters-Adams (2006) may not even be wholly aware of the meaning of his or her values such that he or she unconsciously includes them in her action. Consequently, it follows that this study had to check on the extent the reviewed ITEPD research projects were devoid of teacher prejudice

2.8.4 Unfamiliarity with CAR methods

Action researchers are known to explore what may constitute adequate research methods as they research their practice. This scenario of 'on-the-job' training and consequent *ad hoc* planning, has led to accusations by CAR critics of prodigious unreliability in data gathering. However, in some instances the unreliability becomes inevitable. Nonetheless, the inquiry methodology only makes sense in the presence of verifiably reliable data gathering. From this perspective, action research advocates such as Waters-Adams (2006) claims that flawed or not, the process provides the most reliable access to practice since action researchers draw strength from the notion of commitment, that is, from the drive to improve on their practice. It is here stressed that an action researcher must be committed to rigorous examination and critique of his or her practice. Carr and Kemmis (1986) in Cohen, Manion and Morrison (2007) liken this conceptualisation of commitment to the Aristotelian notion of *phronesis* – the disposition to act truly and rightly. *Phronesis* is underscored to be the only fixed element in CAR as all else might change. To check on the authenticity of one's solicited data in CAR, Cohen, Manion and Morrison (2007) advise that action researchers should involve outsiders, for example, a critical friend, in the analysis of

their data. However, it is the degree to which action researchers are committed to this critical analysis of their practice that provides the true measure of reliability in data gathering. In practice, the principle is known to be difficult to implement since commitment or the disposition to act truly and rightly cannot be measured easily. In that view, CAR continues to be battered by its critics. The critics argue that it is difficult to ascertain how action researcher's usually qualitative analysis is rigorous enough.

2.8.5 Non-generalisability of the action research results

The other predominant shortcoming for CAR is that action research projects are circumstantial or contextual and it is argued that results thereof are not generalisable. Although this is true to a greater extent, ideas or conclusions reached at in a different context can always be tried out by other persons in their own practice, to see if they work for them (Hamilton, 1981 in Waters-Adams, 2006). In spite of the principle that CAR is mainly focused on local-level dissemination of research outcomes, broader dissemination at times ensures that the study outcomes may influence beyond its scope to other settings and people quite far afield. In view of the foregoing, some degree of generalisability may be attained if appropriate dissemination strategies are adopted (Melrose, 2001).

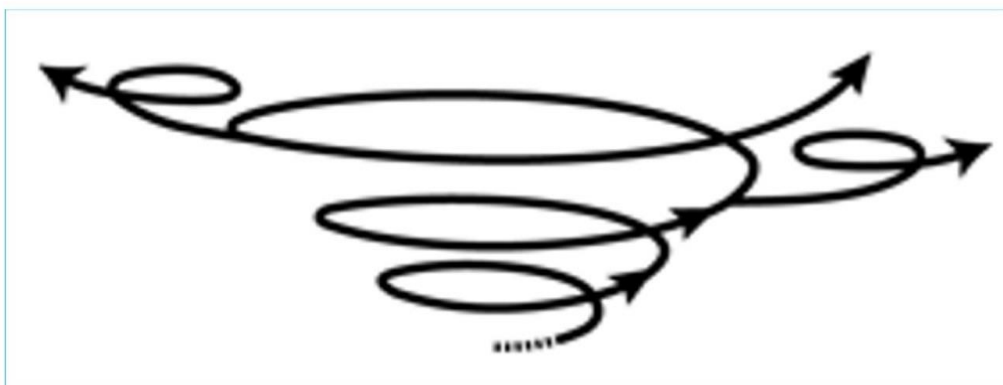
2.8.6 Research phobia

Taking into account the nature of research output, educationists concur that there are two sides to any research results (Nunan, 2006). The outcome may either be positive or negative or no results at all. Surprisingly, mainstream journal publications rarely articulate studies whose research findings were inconclusive. If a teacher was to report inconclusive research outcomes, she would certainly be labelled an outright failure. This would mean that the teacher researcher was incompetent when outcomes are made public. Due to such fear of being branded incompetent, teachers tend to play it safe and avoid the possible embarrassment by keeping themselves to the core duty of teaching, thus leaving the pedagogical research opportunity mainly to university

lecturers. Furthermore, CAR only becomes research when outcomes thereof are made public by way of a paper presentation, project report or publication of a journal article. Failure to give a public account renders any CAR mere reflective teaching. According to Nunan (2006), teachers who produce even highly commendable research projects tend to avert production of a written account of their work for results dissemination to a wider audience. Many such classroom practitioners claim to have superficial competency in the requisite technical report writing skills (Ellis, Armstrong and Groundwater-Smith, 2010).

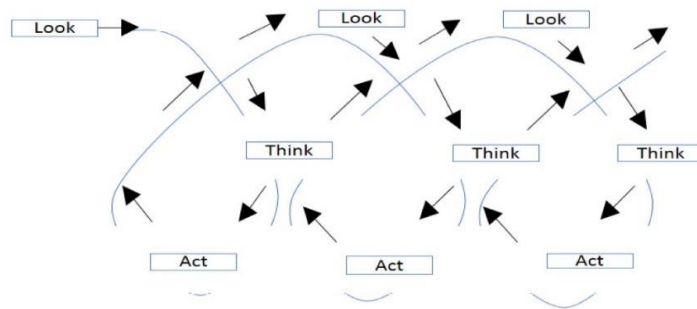
2.8.7 Complexity of action research representations

Besides the above-mentioned research phobia, the range of visual diagrams of the action research process are of varying complexity and quite intricate. The representations are often quite messy, as illustrated below in Figures 2.2 and 2.3 that a novice researcher tends to be put off before giving it a try.



Source: McNiff (2010:16)

Figure 2. 2 Action Research Spirals



Source: Stringer (2014)

Figure 2. 3 Action Research Helix

Figures 2.2 and 2.3 give an impression that the CAR spiral is without end. This gives an impression that by engaging in CAR one would be chasing a historical ambition. Neapolitan (2000) posits that this could be the reason why the majority of education leaders and teachers demonstrate lack of knowledge and understanding of what classroom action research entails. The complex representations abound in research literature may lead to mystification. Since the understanding of any research initiative is like a ripple in a pond that starts from the centre of influence and cascades to the sphere of influence, one would expect education leaders to have a clear grasp of the classroom action research process and its specifics prior to converting the novice pre-service teacher hence this study, to ascertain the teacher educator capacity in the delivery of CAR in ITEPD. Meanwhile, in contrast to the above representations, Figure 4 gives a false sense of regularity of the CAR process to the teacher researcher. Hopkins (2008) criticises the seemingly tight, orderly representation of action research as having the potential to trap teachers within a framework which they might come to depend on and which will, consequently, inhibit independent action. McNiff and Whitehead (2002) posit that action research is a messy process characterised by intertwined lines of inquiry and continual refocusing as is espoused by the Eclectic CAR Model proposed by Brown (2002).



Figure 2. 4 The action research cycle

Source: Kolk (2002). Available: <http://creativeeducator.tech4learning.com>

According to McNiff (2010), CAR follows the act, observe and reflect sequence, however, the plan allows side spirals (Figure 2.3) where the researcher is at liberty to run with an educational concern that may emerge during an investigation. Such a sprouting concern may be investigated alongside the main research question or completely rule the roost. However, such a practice would be applicable to in-service teachers and difficult to adopt in the case of pre-service teachers as they undergo their initial teacher education.

2.8.8 Entrenched CAR attitudes and culture

In spite of the complexity of CAR conceptualisation reviewed above, there are several other barriers which might prohibit CAR from being successfully implemented in schools. Such impediments include sheer resistance by teachers themselves. Most technically biased teachers tend to view research, relatively, as an elitist activity characterised by hard-crunch analysis of statistical data. Consequently, they would rather stay in their comfort zone and concentrate on their core responsibility of

teaching, rather than seemingly waste time chasing the curriculum reform ambition. However, McNiff (2010:21) condemns such negative attitude and exhorts that while it may be true that individual practitioners cannot completely change the world, the little change they make as researchers, each one a small bit at a time, eventually resulting in realisation of considerable change. Even in circumstances where CAR may be embraced by teachers, negative attitudes by senior education leaders, for instance, school principals, departmental heads and teacher educators, may still thwart their research impetus. For instance, Ellis (2012) in concurrence with Waters-Adams (2006) observes that most research informants claim that in several instances, education officers are reluctant to grant prospective teacher-researchers permission to conduct action research in schools, giving preference to university academia. Lurking behind such negative attitudes would be the perception that it is not legitimate for a teacher to do research. It may be deduced that education leaders too prefer a situation where classroom research is carried out by university professors or teacher educators.

2.8.9 The confusing rhetoric of action research

According to Waters-Adams (2006), a look at the works of educationists such as Dewey (1933), Habermas (1970), Carr and Kemmis (1986) or Winter (1987), shows that behind a straightforward strategy for teachers to systematically, intentionally, collaboratively and critically examine their practice, there is an intense methodological and epistemological debate. The fact that action research is embraced as the most probable way to research classroom practice, has been the subject of criticisms, both from within and outside. For instance, the persuasion is criticised for relying heavily on skills of self-critique which all teachers are assumed to develop over time. According to Waters-Adams (2006), this is viewed as the hubris of Carr and Kemmis (2005). Waters-Adams (2006) further claims that there is little evidence of Carr and Kemmis' (2005) familiarity with the practical world of teachers and the real problems which teachers face. Waters-Adams (2006) is further raged by the level of prescription in some sections of the action research literature, in general. Attack is made in particular to the categorisation of classroom-based action research into various kinds, namely:

technical, practical and emancipatory. Waters-Adams (2006) argues that these are supposed to reflect the levels of involvement of participants, the amount of critique possible and, consequently, the quality of the knowledge derived from the process. For example, for action research to be emancipatory, it must, for a start, be collaborative.

The above rhetoric on CAR categorisation is certainly too prescriptive. Cochran-Smith and Lytle (2009) note that a hierarchy of action research styles suggests that it is possible to judge the quality of teachers' research even before it has taken place. Furthermore, they argue that one may be justifiable to observe that the bashing of the Carr and Kemmis' (1986) conception of CAR process comes mainly from academics that might also have seen their model of action research as the rightful one. Their critique could have been motivated by the desire to outdo one another. The vitality of such critiques and debates is summed up by Cochran-Smith and Lytle (2009) who underscore the fact that the term 'action research' should be used in a broad sense as a systematic, intentional, critical and in most cases collaborative inquiry by practitioners about their own practices.

This broad conception serves to accommodate a wide spectrum of teacher researches that fall in the action research genre. The debate in literature about what is and is not real CAR research, its specifics, spiral nature, about it being collaborative or not, about whether it can or should involve outsiders as well as insiders although quite informative in an academic sense, is to a greater extent irrelevant to education practitioners who engage in action research (Sandretto, 2007). In view of the above, it should be appreciated that there are a diversity of interdependent types of action research and it would be awful to expend valuable time and energy arguing over who are genuine action researchers, in relationship to imposters. The issue of failure by teacher researchers to distance them from the area of concern is another prominent impediment. It is alleged that the fact that teacher researchers cannot divorce themselves completely from the research situation means that they are not able to obtain an objective viewpoint on an investigation. They tend to be biased in one way or the other tainted by personal beliefs, assumptions and at times has superficial

knowledge on the subject in question.

2.8.10 Conflict between teaching and researching

Another demerit that is often associated with the implementation of CAR is the seemingly incompatibility between teaching and researching. A teacher might embark on an instructional inquiry on a needy area but realises that the research hinders one's teaching or the achievement levels of learners. For instance, a teacher might focus on investigating the impact of subjecting learners at a particular grade level to high-order questions in the teaching of interactive comprehension in English as a Second Language. Much time would certainly be spent by both the teacher and the pupils on the selected reading strategy. The teacher, for instance, would require ample time to collect the requisite data, analyse the data and reflect on the strategy's overall impact on teaching and learning. Consequently, the success of such an endeavour may result in the neglect of other curricular activities. This would certainly not go down well with the teacher's immediate supervisor and parents.

Another radical dimension on the incompatibility between CAR and teaching is the view that the two are actually at conflict to be the core mandate of a practising teacher. It is generally believed that it is the primary role of teachers to teach and not to research. Educational researchers on one hand should have the impetus to have an in-depth knowledge and understanding of curricular areas of concern. The above view suggests that researching and teaching roles are not readily compactible and for an education system to benefit much from both, each of the two, teacher and teacher researcher, has to concentrate on one's core business. Brown (2002) notes that this stance is strongly supported by Foster and Nixon (1978) who argue that the teacher's role is too intricate to include a strong research component. Consequently, this study intended to explore the extent to which such perceptions were held by coalface pre-service teachers and teacher educators in the Zimbabwean context.

2.9 Theoretical frameworks

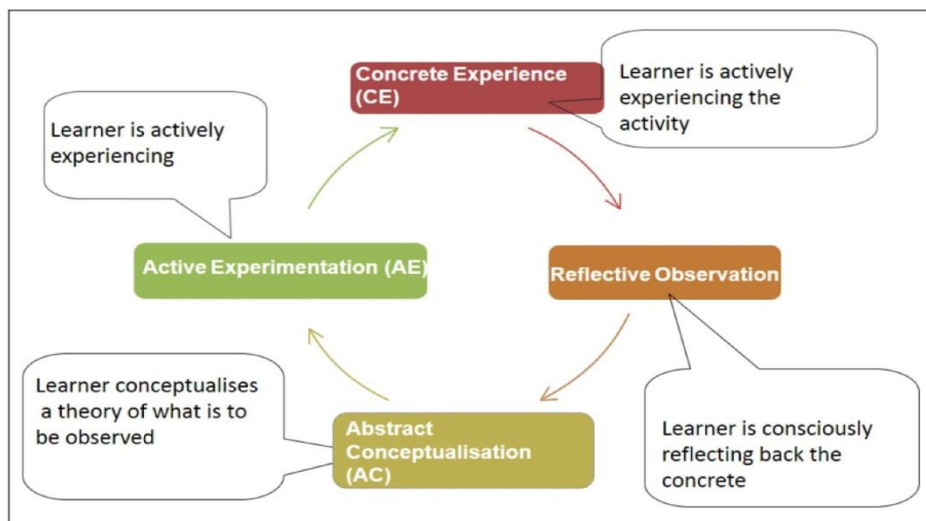
According to Westbury (2008), the tension between what is often pronounced in educational policy frameworks and what is practised in curriculum implementation seems perennial and perpetual. It appears there has always been some disparity between proposed curricula and practice or between aspiration and action on the ground. A quick look at the goings on in teacher education colleges in Zimbabwe and elsewhere in the Southern African Development Community (SADC), gives a noticeable discrepancy between the intended curriculum and the taught and between what is taught and what is learnt (Altinyelken, 2010; Deacon, 2012). The differences may be promoted by colleges of education consciously or unconsciously. For instance, teacher educators may connive to implement the curriculum in a way they see fit. In some cases, circumstantial realities may dictate curriculum implementation. Education experiences in non-OECD countries suggest that the gap between the intended curriculum and the taught is often quite glaring. As a result, Rogan and Grayson (2003) state that failure to implement educational reforms in developing countries has resulted in considerable waste of effort, time and financial resources. It is alleged that policy makers in the failed curricula seem to expend much on policy formulation than on supporting the implementation process. As a result, one can deduce that policy makers, in general, need to properly plan for the implementation stage of any curricula reform and the associated support strategies.

In view of the above, this study intended to explore the gap between the intended CAR and what was taught in the identified teachers' colleges in initial teacher education and professional development. Its object was to interrogate the extent to which CAR was implemented in Zimbabwean teacher education colleges. The implementation process was analysed using three theoretical frameworks, namely: the Experiential Learning Theory (ELT), the Curriculum Implementation Framework (CIF) and the Living Educational Theory LET). The theories had a strong bearing on reflective practice which is the kernel of classroom action research. They also acknowledged the

subjectivity of truth in education obtained through circumstantial experiences. The theories reckoned divergent views. Find below the explication of the theories.

2.9.1 The experiential learning theory

The experiential learning theory (ELT) was propounded by David A. Kolb in 1976, (Kolb and Kolb 2005; Loo 2002). The theory draws heavily on the works of John Dewey, Kurt Lewin and Piaget (Loo, 2002). It is also traceable to Aristotle who observed that “for the things we have to learn, before we can do them, we learn by doing them”.



Source: Kolb (1984:21)

Figure 2. 5 Experiential learning theory

ELT stresses that learning is most effective if it begins with experience. ELT is a four-stage cyclical theory of learning (Figure 2.5) focusing on concrete experience (doing); reflective observation (observation); abstract conceptualisation (thinking) and active experimentation (planning) (Kolb and Kolb, 2005). The experiential learning theory acknowledges that knowledge is gained naturally through both personal and

environmental experiences. Kolb and Kolb (2005) state that in order to gain genuine knowledge from an experience, the learner must have four abilities, namely: willingness to be actively involved in the experience; the ability to reflect on the experience; the ability to conceptualise the experience; and be in possession of the requisite decision-making and problem-solving skills in order to use the new ideas gained from the experience. Experiential activities are recognised by ELT among the most powerful teaching and learning tools available. However, it should be stressed that experiential learning, according to Kolb and Kolb (2005) may begin at any of the four stages but continue in the outlined sequence.

The ELT also acknowledges that learning is life-long, that is, it is never conclusive. This is based on the fact that a learner may change in judgment and feeling the moment he or she gets some feedback. Consequently, the developed skills and competencies, on one hand, may trigger further learning or decision making. What is important in experiential learning is that the learner is directly involved in the experience; reflect on the experiences and retain the knowledge for a longer time. Reflection is a crucial part of the experiential learning process, and like experiential learning itself, it can be facilitated or independent (Moon, 2004). Dewey in Kompf and Bond (2001:55), stresses that "successive portions of reflective thought grow out of one another and support one another". This creates a scaffold for further learning and allows for further experiences and reflection.

2.9.1.1 Educational implications of experiential learning theory

An analysis of the Experiential Learning Theory shows the dominance of reflective practice in practising teaching. Reflective practice on one hand depicts two major pillars upon which CAR is based, namely, reflection and practice. Reflection, according to CUA (2005) is in keeping with the idealist or realist educational philosophy. The concept acknowledges the power of reason in establishment of truth. In that view, reflective skills are paramount in developing a wholesome learner espoused by Dewey in Nunan (2006). Complementing the idea of reflection is the concept of practice,

underpinned by Dewey's experimental philosophy. The philosophy assumes that people learn by doing and from recognising the value of what they do in comparison to their lives. The practice premise acknowledges that learners have the ability to construct own understanding of the world. Overall, reflective practice stipulates that "Knowledge is acquired through sensory experiences in the world and then abstracted through reflection to guide future understanding and decision making" (CUA, 2005:8). This in turn dictates that in spite of preparing teachers with a series of foundational knowledge, skills and professional dispositions or attitudes, they too need to be nurtured with a set of dispositions that foster the development of one's head, heart and body, i.e. intellect, moral and physical.

Consequently, Yost, Sentner and Forlenza-Bailey (2000) posit that teaching is a lifelong commitment that calls for lifelong learning. In that vein, CAR as part of the continuous professional development (CPD) continuum is the fountain of teaching. The authors concur that CAR is centered on reflection as propounded by Dewey in 1916 and further developed by subsequent constructivists. Yost, Sentner and Forlenza-Bailey (2000) further stress that the teacher quality Dewey believed in most is critical reflection. Critical reflection, the bedrock of CAR, denotes that something is believed in or disbelieved because of some empirical evidence or proof for the belief. The educationists (Yost, Sentner and Forlenza-Bailey, 2000) posit that Dewey (1933) postulated three major attributes of a reflective teacher, namely: open-mindedness, responsibility and wholeheartedness. Open-mindedness is described as the desire to listen to more than one side on an issue. It is the ability to give attention to divergent views. It is the conviction that strong beliefs or long established tradition may be subjected to questioning.

Responsibility, on one hand, is the desire to search for truth and eventually apply the truth to problem solving (Reagan, Case and Brubacher, 2000). On the other hand, wholeheartedness implies the bravado or capability to overcome fears or uncertainties with regard to the practice of teaching and make meaningful change thereof. This means that a wholehearted practitioner has the ability to critically evaluate self,

learners, the school system and society at large to create a just society. Consequently, it is underscored that any teacher education programme that is worth its salt should provide pre-service teachers with opportunities that imbue them with experiences that enable them to reflect. This is the reason why this study intends to establish whether CAR, as a significant component of reflective teaching, is afforded the importance it deserves in the current teacher preparation programme in Zimbabwean teacher education colleges.

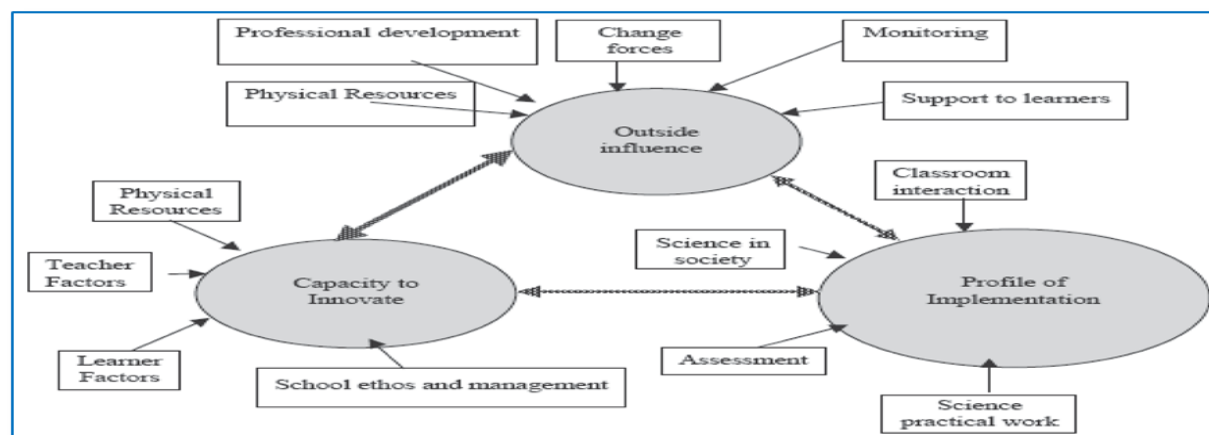
The importance of a nation to have reflective teachers cannot be over emphasised. The NCLB (2001), CUA (2005) and Reagan, Case and Brubacher (2000) stress that a reflective teacher should have a repertoire of suitable knowledge base in relationship to curriculum content, educational materials, pedagogy and the maxims that guide instruction. Such suitable knowledge base is attained through a multidisciplinary approach, hence the exposure of pre-service teachers to a gamut of teacher education disciplines, namely: professional foundations or theory of education (ToE), professional studies (the custodian of CAR) and teaching practicum. Thus, all initial teacher education and professional development (ITEPD) curriculum activities deserve to be accorded their rightful place. No activity should be more equal than others, hence the need to explore and understand whether CAR delivery is not left to chance during teacher preparation. ITEPD in general and CAR in particular, should give preservice teachers opportunities that require reformulation of ideas and the modification of established formulae (Widdowson, 1990 in Cohen, Manion and Morrison, 2007). This means that each teacher, both pre-service and in-service, should use preconceived ideas in relationship to own-situation (context) and make the necessary changes to be effective in teaching.

If pre-service teachers are to effectively work with the diversity of learners who characterise the contemporary classrooms, Campbell (2013) advises that teacher educators too should embrace CAR for own classroom practice. Such practice would certainly serve to improve the teacher educator's instructional skills and competencies and cascade to informing the teaching profession in general.

Furthermore, it should be noted that attention to classroom inquiry or CAR is not new. Several educationists or teacher-educators, most of them outside Sub-Saharan Africa (SSA), have written on the need for emphasis in CAR in teacher preparation and subsequent in-service (Brown, 2002; Earlie, Seehafer and Ostlund, 2001; Ginns, et al, 2001; Hine and Lavery, 2014a; Hong and Lawrence, 2011; Kosnick and Beck, 2009; Ting, 2005; Wright and Marquez, 2006), hence the need to look at the Zimbabwean context that may be juxtaposed to practices in the region and internationally.

2.9.2 The curriculum implementation framework

The curriculum implementation framework (CIF) was proposed by Rogan and Grayson (2003). The framework is underpinned on three overarching constructs: support from outside agencies, capacity to support educational innovation and profile of implementation. The curriculum implementation theory is illustrated in Figure 6 below. Drawing on literature on school development, educational reconstruction and reforms on science education, the authors developed a framework that attempted to address inadequacies of the preceding frameworks.



Source: Hattingh, Aldous and Rogan (2007: 76)

Figure 2. 6 Curriculum Implementation Framework

The new CIF framework (Figure 2.6) focuses mainly on the shortcomings of a

framework that Beeby and Vertspoor and Wu developed (Altinyelken 2010). The preceding educationists seem to have developed frameworks that categorise schools and education systems. The models also focused mainly on teachers, while neglecting other paramount determinants of curriculum implementation. For instance, Beeby's model categorised schools into four stages: the dame school, formalism, transition and meaningful school. It was assumed that a school progresses over time from one developmental stage to the higher. On face value, this may be castigated on the argument that there are schools that are well resourced from the word go such that they may rightfully fall in the elite category of meaningful school. In contrast, there are schools, particularly in highly impoverished communities, that have perennially remained condemned over say half a century with no hope of developing to the next rung. The alternative school model that Verspoor and Wu developed has Unskilled, Mechanical, Routine and Professional Schools (Altinyelken, 2010). Unlike in the Beeby's model, Altinyelken (2010) argues that the alternative model takes into account several factors that determine curriculum implementation drawn from teacher factors; curriculum objectives, content, pedagogy and evaluation strategies, and relative school culture. Nonetheless, both the overall shortcoming of both models is their failure to incorporate students as the key stakeholder of any curriculum implementation process. Both models imply a linear perspective of curriculum reforms, developing from one developmental stage to the higher one. According to Rogan and Grayson (2003), such a perception tends to distort the intricate and idiosyncratic nature of curriculum change, innovation or implementation.

The support from outside agencies or outside influences focuses on all the strategies external organisations such as aid agencies, education departments, the corporate world and teacher associations undertake to influence curriculum implementation in schools. The external agencies either support school-based instructional innovations or provide sanctions. In some instances, they provide material, financial and several other non-material supports. Aid agencies, for example the United Nations International Children's Education Fund (UNICEF), often provide support in the form of textbooks, supplementary feeding or construction of additional classrooms. They may

also spearhead pre-service or in-service professional development initiatives. For example, in Zimbabwe, the Netherlands Government funded the Better Schools Programme-Zimbabwe (BSPZ) and the Better Environmental Science Teaching (BEST) in the mid-1990s. The same government funded the textbooks provision initiative during the Government of National Unity (GNU) era (2009-2012). Besides providing material, financial and related non-material support, outside agencies may promote the cooperation of teachers amongst themselves for the benefit of curriculum implementation and students achievement. They may offer independent curricula monitoring and supervisory services to schools. This comes against the backdrop that Education Ministries are known to impose educational innovations by decree. Non-Governmental Organisations (NGOs) also tend to resort to persuasion and inspiration (Altinyelken, 2010).

Second is the capacity to support innovation. The construct is concerned with factors within the school that tend to support or disrupt the implementation of curriculum. Rogan and Grayson (2003) single out four major indicators of an institution's capacity to support a curricular innovation. The four main determinants are: available infrastructure, teacher/lecturer factors, student factors, plus the school ethos and management (Rogan and Grayson, 2003). Infrastructural resources are of paramount significance because in the context of ITEPD, poor facilities or the scarcity of requisite instructional resources impact negatively on how pre-service teacher are taught. The physical resources also determine how the student teachers would learn. For instance, if a teachers' college has a noticeable scarcity of essential referral textbooks, information and communication technology (ICT) facilities or laboratory facilities, one would not expect such an institution to be of high CAR prowess.

Besides the general quality of an institution's executive management being of great importance in determining the success of a school in its core mandate of teaching and implementing education reforms (Fullan, 2008a), teachers are of equal importance. Teachers determine what goes on in the classroom. They determine the success of practised curriculum in contrast to the proposed or pronounced. Due to their rationality,

teachers certainly do not merely absorb the dictates of policy makers with regard to curriculum content, methodology and pre-existing teaching practices (Taber, 2010; Fullan, 2008a; Lopes and DeMacedo, 2009). Factors that influence the teacher's level of effectiveness and reflectiveness (the kernel of CAR) are the relative quality of the ITEPD programme they undertake, their knowledge of subject matter, knowledge of how learners learn, self-motivation beliefs, instructional skills, competencies and expectations (Levin and Navo, 2009; Taber, 2010). Likewise, students' background and the types of strengths and constraints they bring to school are of equal importance. A series of factors influence students' achievement levels in any curricular initiative. These include the home environment, parental support to education, health and nutrition and language proficiency (Bloom, 2005). According to Altinyelken (2010: 141), "...the quality of infrastructure or the characteristics of teachers and students differ from one school to another; hence, there can be a significant difference in terms of school's capacity to implement curricular reforms." Furthermore, the contribution of the forenamed four sub-constructs to the capacity of an institution in the promotion of CAR, or any other educational activity is dynamic. It certainly changes over time for the worse or better.

Third is the construct of profile of implementation. The construct assists in understanding, analysing and expressing the magnitude upon which the essence of the education reform is realised. The construct provides the map of the learning area (Rogan and Aldous, 2005). The authors posit that the profile of implementation fosters curriculum planners to conceptualise level of curriculum implementation and to take note of the strengths and constraints associated with the implementation. The construct acknowledges that there can be a multiplicity of ways in curriculum implementation. It is further assumed that in so doing, features of good practice will always emerge. Rogan and Grayson (2003) stress that curriculum implementation is not an all-or-nothing position; hence, the diverse ways and levels on curriculum implementation. It follows that even in CAR implementation, there is no one-or-nothing way of its implementation though some good practices should emerge that teacher educators agree that they foster reflective practice and teacher research in general. In

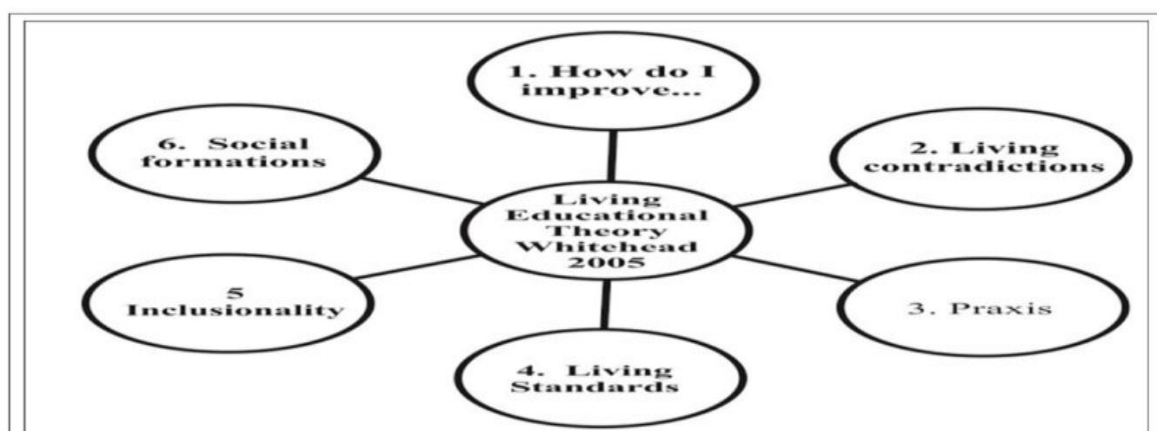
contract to the preceding models of curriculum implementation, Rogan and Grayson (2003) do not recognise the progression from one lower level to another. They believe that the higher levels also include the lower ones. The different levels suggest use of a gamut of instructional strategies. These three sub-constructs are to be associated with the profile of implementation (Altinyelken, 2010). These are content coverage, student-centered pedagogy and authentic assessment. Content coverage is concerned with content load of an educational activity. Aspects such as the total number of topics to be covered within a particular period of time and grade level are noted, together with the associated competencies and skills. Curriculum materials, that is, textbooks, course modules, ICT facilities and subject guides also take centre stage in curriculum implementation. Seemingly, there is a positive correlation between the quality of curriculum materials and student achievement. It can, therefore, be deduced that in situations where say teacher research textbooks are scant, one would not expect pre-service teachers to have much appreciation and competency in CAR. In addition, lecturers would expect better performance in teacher research assignments where student teachers engage in circumstances where ICT facilities are abundant. Under normal circumstances, availability of such facilities would ease information sharing.

In the student-centered pedagogy sub-construct of the profile of curriculum implementation, the use of participatory methodologies in teaching and learning is promoted. The pedagogy maintains that learning has to be made real by letting learners utilise their perceptions; the emphasis is on learning by doing. Learners are given more opportunities to interact among themselves. They are offered the opportunity to express their opinions. By so doing, learners are given the chance to learn through hands-on experience. Overall, learning becomes both motivating and fascinating. For instance, where e-learning is used, learners will certainly benefit from the concretisation of concepts that were previously assumed to be quite intricate or abstract. In the case of CAR, the process may be well illustrated through the use of computers and educational compact discs (CDs) or DVDs. The student-centered pedagogy is acknowledged by educationists as the way to go. Gone are the days when students were regarded as sponges ready to absorb information. In the

preceding century, a quiet classroom was ideal. It was indicative of the assumptions that a teacher was successfully managing order. It was the duty of the learners then to quietly listen to their teachers. However, in recent times a noisy classroom is next to ideal. Students are given the opportunity to get involved in their learning process. Meanwhile, authentic assessment remains a problematic issue for many curricula. Many teachers and learners concur that most educational assessments are subjective. The situation is exacerbated by a situation where a lecturer is made to handle many students at a time. It is thus underscored by Rogan and Grayson (2003) that student assessment should desist from being mere formalistic, aimed at fulfilling a particular routine requirement.

2.9.3 The living educational theory

The living educational theory (LET) is the third design model used to frame this research. The educational theory was adopted because of its potential to guide educational researchers to yield meaningful, relevant and trustworthy findings (Brown, 2002). The living educational theory (LET) is an approach (Figure 2.7) that was conceptualised by a hands-on educator for educators unlike some theories that were proposed by some social scientists or cognitivists and eventually found their way into influencing educational practices.



Source: Whitehead (2008)

Figure 2. 7 Properties of Living Educational Theory

The LET was proposed by Jack Whitehead, in the 1970s (Whitehead, 2010). He conceived the idea to influence educational research during his initial teacher education and development programme and further refined the idea as a master's student. Whitehead (2010) asserts that the LET was inspired by reading of Polanyi's (1958) *Personal Knowledge* works. He further emphasises that the reading gave him the impetus to reflect on Polanyi's positivist approach to research. In an attempt to come up with an alternative approach to educational research, he further reviewed numerous CAR projects and became so attracted to CAR methodology, epistemology and ontology. As a result, Whitehead began to carry out CAR on his on teaching practice. He rejected theories that espoused closed systems of thinking. He also castigated propositional form of research in which researchers are driven by the need to manipulate variables to achieve preconceived results. The author despised the predominant belief then that glorified positivistic research as the only reliable lens upon which the effectiveness or efficacy of teachers is determined. In view of the foregoing, it is justifiable to deduce that the LET was inspired by a gamut of authors (Elliott, 1987; Freire, 1973; Habermas, 1987; Hirst, 1983; Schon 1983), all cited by Whitehead (2008).

According to Whitehead (2008), LET is defined as an educational framework developed and tested from a self-reflective form of inquiry. The author further notes that LET researchers focus on improvement of their educational practice, developing an in-depth understanding of their teaching practice and the general environment in which the practices are carried out. The theory is based on an inquiry designed to answer the question in the mold: 'How do I improve my practice?' The use of 'I' is quite central in the LET equation. It signifies and calls upon intentional teacher participation in educational research as a participatory researcher and not a mere observer or research informant. The practice is based on the conviction that it is only through a detailed analysis of the participating researchers' living or situational accounts (praxis) that the living educational theory evolves.

2.9.3.1 Living educational theory in classroom action research

The living educational theory (LET) exhorts that in framing research questions, the researcher should be guided by the 'prefix' "How do I..." The question "How do I improve my practice?" also frames the research methodology (Whitehead, 2008). Whitehead, nonetheless, further develops the frame to focus on studying one's own practice. His work (Whitehead and McNiff, 2006; Whitehead, 2008) investigates in depth how to ascertain i.e. to judge and validate the claims made by teacher researchers. He explores how the subjective experiences of one researcher may influence the wider educational community by providing findings that can be of great assistance or influence in the practice of others. The author acknowledges that theory and practice often have contradictions and it is these 'living' contradictions that researchers should explore in order to come up with alternative educational knowledge. McNiff (2010) claims that Whitehead often asks how researchers learn from the tensions experienced in theory and practice. Coming up with solutions to the tensions thus leads to the institution of LET. Whitehead's conceptualisation explores the evolution of what people already know (tacit knowledge) to how they come to reconstruct new knowledge through their active engagement in practice and what they actually practice (living their values) in everyday context (McNiff, 2010). He further argues that although teacher researchers often maintain preconceived values about their practice, these values are in most instances underplayed by situational constraints.

In that view, LET comes into play when a teacher starts to reflect on the course of action to take upon encountering an educational challenge. It is at this juncture that practitioners begin to act out their values. In view of the above, Whitehead (2010) castigates educational theory that is purely propositional but espouses that which acknowledges that dialectic explorations and discoveries can be used alongside propositional discoveries as valid research findings (McNiff and Whitehead, 2005). In further developing the LET, McNiff and Whitehead (2005) developed the concept of social formations. A social formation is viewed as a group of people working together,

bound by unspecified rules and regulations. Surprisingly, the unsaid rules are known and accepted by the group. The social formation concept is similar to Wenger, McDermott and Synder's (2002) concept of communities of practice. Community of practice members should therefore construct and share knowledge through the set structures. According to McNiff and Whitehead (2005), knowledge attained by a member in a social formation must be critically reviewed in relationship to the group's practice with the ultimate goal to change and improve their relative practice.

2.9.4 Generalisability in LET and classroom action research

As has been noted above, under 'impediments to implementation of classroom action research', CAR is mainly criticised for its lack of generalisability or transferability. In line with the dictates of the community of practice or social formations, it is ordinarily expected that an educational action research has to be readily transferable to similar educational context. This is guided by the view that generalisability is important if social formations are to be established (Guba and Lincoln, 2011). Furthermore, tacit knowledge for one professional group, on the one hand, may be made explicit to another through knowledge sharing. Living educational theory (LET) in a situational context provides a template upon which knowledge is transferred from one educator to another. However, according to McNiff (2010) the new knowledge becomes more meaningful if it is in comparable circumstances. Furthermore, Sagor (2000: 157) observes that CAR studies are usually conducted in "...a unique setting with a comparatively small sample..." Owing to the diversity of research settings and limited sample size, CAR generalisability becomes quite restricted. Besides, CAR reports often provide research results that are authentic (i.e., valid and reliable) with particular reference to what would have been experienced in a particular educational set-up. Overall, it is the responsibility of every education practitioner to establish the transferability of research findings from a different educational environment. The exercise of the responsibility leads to the educator's enrichment of one's knowledge bank or living educational theory.

Whitehead (2005) argues that educators must not only conduct research to study their practice and resolve contradictions but they must also strongly validate the claims arising from their research. The validation process denotes making research claims; examining the claims against empirical evidence and involving significant others in making judgments about the suggested claims (McNiff, et al., 2003). The validation process starts off with self-validation, peer validation, up-liner validation, client validation, academic community validation and continues to ascend to validation by the general public (McNiff, Lomax and Whitehead, 2003). The authors acknowledge that for research claims to be well received, particularly, by other education practitioners and the academic community, assertions made must be supported by sufficient empirical evidence. It is underscored that action researchers have to be accountable, with the accountability derived from the exercise of some democratic evaluation, as demonstrated above. In view of the foresaid, it is evident that an assertion becomes authentic when it is interpreted by multiple interpreters and concurring on same meaning.

The living educational theory boasts of the ability to meet the four trustworthiness constructs of credibility, conformability, dependability and transferability. These are recognised as generally accepted standards of validity. To firm LET transferability or generalisability, Whitehead (2005) applies three logics, namely, propositional, dialectical and inclusional. The author stresses the significance of ontological values in CAR as these give meaning to human existence and form epistemological standards of judgment. As is the case with most educational frameworks, Whitehead's conceptualisation of LET has undergone a series of mutations. He cautions that CAR accounts should not be adjudicated on the basis of environmental and social influences but on educational influences to teaching – learning and evolution of social formations. Action researchers must adopt practices that merge their values and practice. Here, a social formation becomes a paramount outcome of routine living and practice. Furthermore, the social formation should share a knowledge system. Therefore, methodologies and insights learned from other settings may be adopted to fit into own conditions. This has led McNiff and Whitehead (2005) to argue about the

need for research accounts validation of their claims or new truths in context.

Having reviewed the conceptual and theoretical framework upon which this investigation is underpinned, the next section reviews the conceptualisation of the initial professional development of teachers with particular reference to CAR, guided by themes derived from the research questions: overview CAR implementation strategies; lecturer capacity factors; teacher factors; student-teachers' perceptions of teaching and teacher standards.

2.10 Conceptualising the process of initial teacher education

Deacon, (2012:2) observes that “Prospective teachers choose to become teachers, or at least decide to apply to study to become a teacher, on the basis of certain personal characteristics, desires and motivations.” These reasons shape one’s pre-training teacher identity which is then reconstructed over time due to the influence of the subject(s) they would study, the social formation to which they now belong and thus, increase professional judgement prowess. It suffices to observe that teacher capability is relational and constructed. It is thus evident that pre-service teachers if properly nurtured in the rightful CAR skills and competencies, they certainly develop to the required professionals. Nonetheless, literature is abound with lamentation on poor school outcomes observed in most non-OECD countries (Bwerazuva, 2013; DoE 2007; Komba and Nkumbi, 2008; Rossouw, 2009). The achievement levels are attributed to the rather low teacher quality in the education systems. In view of the general perception that the teacher factor is key in determining learner achievement, (Darling-Hammond, 2000; OECD 2005; Rice 2003) more emphasis is now being exerted on the state of teacher education in these countries. Focus is on how pre-service teachers are being provided with the requisite subject and pedagogical knowledge and skills. CAR having been acknowledged to be paramount in the development of a reflective teacher, coupled with the observed action research inadequacies, the researcher was filled with the desire to undertake an in-depth inquiry on the initial teacher education and professional development (ITEPD) in Zimbabwean

teacher education colleges (primary) with particular reference to CAR implementation. Globally, the ITEPD continuum involves how prospective teachers are recruited, prepared, deployed, inducted and begin to teach in schools (OECD, 2011; OECD, 2005; Taber, 2010; Thrupp, 2006).

2.11 Overview of CAR implementation strategies in Zimbabwe

In the past three decades and a half, following the attainment of political independence in 1980, teachers completing the Diploma in Education (Primary) programme in Zimbabwe have been required to conduct an action research project, popularly known as the Curriculum Depth Study (CDS) project. Prior to the turn of the 21st Century, student teachers were required to submit two projects, one drawn from their Academic Study or Main Subject and the other from the Professional Studies Syllabus B (PSB) subject area of their choice. Currently, mainly from the year 2000, Zimbabwean student teachers are required to submit just one CDS project. The CDS project is drawn from a classroom-based educational problem that is of significance in determining student achievement. The underlying goals of the CDS projects are to enhance student performance or to improve the student teacher's comprehension of the teaching and learning process with particular reference to specific circumstances (Segal, 2009; UZ, 2013). According to the UZ Framework for Quality Assurance in Associate Colleges (2013: 17), Professional Studies Syllabus C (PSC), "... provides opportunities and experiences for student teachers to research i.e. explore, reflect, resolve and report on classroom based teaching and learning strategies". The first step of a CDS project is reception of CAR lectures by the student teachers. The lectures are delivered mainly by a compliment of Professional Studies Syllabus 'A' (PSA) lecturers assisted by lecturers in the Distance Education Department. The next step would be submission of a CDS proposal. The proposal must be approved by the student teacher's prospective supervisor prior to embarking on the actual CAR. The supervisor is drawn from any faculty member mainly from a PSB area lecturer on which the action research proposal falls. Upon adoption of the project proposal, the supervisor walks the student through the action research process. The faculty member

works with each student, guiding him or her in the design of the project and providing checkpoints along the way. Ordinarily, the lecturer provides the student with support, guidance, expertise and validation of the CAR claims (Segal, 2009). Ultimately, the final CAR project is assessed and a score awarded carrying a weight of 25% of the candidate's overall Professional Studies' components (UZ, 2013). The other components weight is as follows: PSA 25%, PSB 35% and PSD (Professional Studies Syllabus D) 15%. Although the ITEPD programme in Zimbabwe was created for the purpose of developing teachers with the requisite content subject or content, curricular and lifelong pedagogical competencies, most CAR project reports produced by student teachers seem to just end up in college cabins. Regrettably, the CAR results are not in any way formally disseminated to colleagues, mainly due to the student teachers' large numbers, averaging say 350 students per cohort. This makes the CDS projects' contribution to the purported community of practice next to nothing. Furthermore, little seems to have been documented on the extent to which such CAR experiences have impacted on the pre-service teachers' teaching practice. Neither has the CAR impact been investigated nor its entire implementation process as an integral component of the ITEPD programme.

2.12 Lecturer capacity factors in CAR implementation

The capacity of educators, that is, both classroom practitioners and teacher educators is key in determining the success or failure of the implementation of any educational curriculum (Akyeampong, et al, 2011; Deacon, 2012; Rogan, 2007). The central role of teacher educators becomes more pronounced when one considers the implementation of an initial teacher education curriculum. This is deduced from the observation that there is often a disparity in educational policy framework and what goes on in the lecture room or during teaching practice. To bridge the gap between the intended curriculum and what goes on in the classroom, educationists concur that an education system should have the rightful calibre of lecturers, who in turn nurture reflective teachers. Such teachers should be made to appreciate from their formative period of their teaching career that teaching is an evidence-based profession characterised by

dynamic teaching-learning strategies. In sum, pre-service teachers have to be exposed to the requisite CAR skills and competencies during their ITEPD (UZ-DTE, 2015; DoE, 2007; Teaching Council, 2012; Thrupp, 2006; UK DoE, 2011).

As is the case with most skills and competencies, it would be naïve to assume that pre-service teachers would develop the requisite attitudes, skills and knowledge on CAR on their own, in the absence of competent teacher educators. Besides teacher educators developing an array of methodological and teacher skills, they have to deliberately engender in pre-service teachers the conviction that teacher is key in educational research. Teachers no longer view themselves as mere research consumers or research informants, but integral researchers in their own right (Cochran-Smith and Lytle, 2009). In view of the foresaid, it is the essence of this segment to interrogate the requisite lecturer capacity factors. First, it should be underscored that literature reveals that being a teacher educator in OECD countries is a post-graduate profession (Deacon, 2012). However, this was not the case several decades back. Following the professionalisation of lectureship, a prospective teacher educator would require at least, both a Bachelor's degree (2.1 or above) plus a Master's degree. Ideally, every university's Faculty of Education would insist on a PhD in Education or equivalent relevant professional qualification. In most developed educational systems, evidence of research publications, particularly those obtained during a postdoctoral position is more often not an added advantage. In sum, most OECD universities are attracted to a prospective lecturer who clearly spells out one's research goals. Usually, a prospective lecturer or teacher educator is identified during PhD studies through exhibiting effective teaching skills and competencies, such as leading in seminars. Deacon (2012) stresses that it is expected of lecturers to be self-motivated and be capable of managing themselves since lectureship involves working independently.

The author further notes that lecturers' core responsibilities in OECD member countries involve lecturing, researching and teaching. Additionally, lecturers may also be responsible for some administration and management duties. They may also

pursue independent research work in multidisciplinary or collaborative research teams or work on solo-research undertakings, on educational concerns that interest them. Usually, lecturers also supervise students' action research projects. The research outputs, for both lecturers and student teachers, are often shared through seminar or conference presentations and publication of journal articles. It should be noted that the balance between teaching and research depends on whether the institution or faculty at which one works is research or teaching focused. Furthermore, to access funding for research projects, experience across the globe dictates that a lecturer or a research team has to submit a bankable research proposal to the responsible research council or industrial sponsor. Besides, the fore outlined responsibilities, lecturers should serve as role models and mentors for less-experienced educators and pre-service teachers. Furthermore, they are expected to be comfortable in using information and communication technology as a teaching tool and as a content area (CUA, 2005).

Taking into account international best standards, on starting lectureship, one has to undergo a probationary period whose duration may be a couple of months to few years. During the probationary period, one is expected to publish research papers, regularly, in refereed journals and take part in seminar and conference presentations. This is the reason why academic institutions the world over are driven by the maxim 'publish or you perish'. In terms of teaching, lecturers are expected to satisfactorily deliver specific educational courses. They may also develop courses and introduce them when necessary. However, experience by the researcher has shown that most lecturers in colleges of education, particularly in Sub-Saharan Africa (SSA), are often not involved in curriculum design. They have to teach courses designed by others, thus leaving them with little say on how and what they teach. Furthermore, lecturers are expected to undertake continuing professional development (CPD) opportunities in their area of specialisation, research or educational instruction in general. The objective is to keep the lecturers abreast with the rapid knowledge evolution in their subjects and maintain familiarity with well instituted techniques.

The major plus of the college lecturer or teacher educator job is its relative autonomy to design one's or departmental working schedule and research agenda. In most OECD member states, the job can be equally rewarding, compared to other professions such as engineering, medicine, architecture and legal practice (Deacon, 2012). In cases where one is an avid facilitator at seminars, conferences and workshops, the job may provide more than enough international exposure and related financial incentives. However, the jobs' down points include high workloads, drawn from high marking volumes, teaching and supervision of student teachers' action research projects. The workload becomes worse for lecturers in administrative positions who are required to supervise the work of colleague lecturers and produce departmental reports from time to time, besides say marking student assignments and examination scripts. Furthermore, anxiety to produce research articles and attract funding can be so high that it may work against a teacher educator. In view of the fore stated CAR implementation strategies, it was the purpose of this study to investigate the situation obtaining in Zimbabwe.

2.13 Lecturer induction

As is the case with all trades and professions, teacher educator competencies and skills do not develop overnight no matter how good one might have been as a classroom practitioner or educational administrator. The skills and impartation of reflective or CAR proficiencies are best developed through some form of structured professional induction. Deacon (2012) observes that teacher or lecturer induction has become more common internationally but the practice is not well instituted, even in some more developed countries. The need for both teacher and lecturer induction is drawn from concerns about the seemingly diminishing teacher quality, with particular reference to their reflective prowess; high rates of attrition among new teachers and shoddy professional-readiness of beginner teachers (Deacon, 2012; OECD, 2011). The must-invest lecturer induction is meant to improve the general quality of education deliverance and eliminate malpractice. The induction ranges from an informal welcome meeting with say the college principal or departmental head to systematic and detailed

mentoring and professional development opportunities (Jensen, et al, 2012). In Sub-Saharan Africa (SSA) education systems, formal teacher and lecturer induction programmes are not as mandatory as is the case in say UK, Australia, Netherlands and Japan (Deacon, 2012; OECD, 2011). In such economies, professional induction is rather a mandatory probationary period after which a beginner teacher/lecturer is conferred the qualified teacher status (QTS).

Furthermore, international best practice suggests that educational practitioner induction should include the following five aspects: orientation, support, mentoring, development and assessment (OMoE, 2009). Orientation is concerned with familiarising teachers or lecturers with professional and instructional policies governing their key responsibility areas. Support focuses on familiarising them with classroom and curricular matters. Mentoring on one hand involves the deliberate attachment of novice educators to some competent teacher educators. The pairing is done to ensure that there is deliberate sharing of the art of teaching or tuition between the mentor and the mentee. Additionally, professional development opportunities are identified, designed and executed at faculty or departmental level. Full qualified lecturer status should thus be conferred at the end of the induction period, say after a year or two of proven teaching experience.

Deacon (2012) cautions that it should be noted that it does not always follow that the best teachers are necessarily the best mentors. If the situation obtaining in Zimbabwe is considered, one would hasten to observe that neither do the best school principals necessarily make the best teacher educators. Consequently, according to Wojcikiewicz (2005), teacher educator induction in countries such as China, France, Japan and New Zealand take the form of acculturation, collegiality and professionalisation where induction is the role of the entire college. Lecturer induction is not seen as the sole responsibility of the mentor lecturer. Such induction programmes are meant to realise improvement in teacher retention, relative job satisfaction and instructional efficacy. In that view, this study aimed to unveil the effort made by the studied institutions to avert situations where induction appeared sporadic,

narrow and individualistic.

2.14 Teacher factors that impact on CAR

In interacting with student teachers in virtually all aspects of their ITEPD programmes, CAR initiatives included, Deacon (2012) advises that one has to consider an array of factors that motivate teachers to teach. Such teacher factors are age, gender, teacher attrition trends, basal or entry qualifications and candidate-teachers' perceptions of teaching. These factors were further interrogated later in this discourse. Additionally, taking into cognisance analysis of international literature on ITEPD, Taber (2010) posits that OECD education systems point to the claim that CAR implementation is determined by the following four factors: deliberate engagement of student teachers in CAR; use of modular structure in information dissemination; collaboration between teachers and student groups, and competent use of ICT. However, the four factors on their own may not be enough determinant factors.

Literature on ITEPD seems to further suggest that teacher efficacy, reflectiveness and the enthusiasm to undertake CAR is influenced by what motivates teacher candidates to become teachers in the first instance (Deacon, 2012; Istance, 2008; Taber, 2010). Prospective teachers are known to be motivated by three major factors, namely, intrinsic, extrinsic or altruistic factors (Deacon, 2012). Intrinsically motivated teachers derive their satisfaction from the sheer joy of teaching. To them teaching is like a calling. The extrinsically motivated teachers derive their satisfaction from some form of external benefits, such as, long vacations, job security and a satisfactory salary. The third teacher category that is motivated altruistically, regards teaching as a socially important job that helps to empower the young generation with survival skills here and now, and in the adult world (Roness, 2011).

According to Thomson et al. (2012) in agreement with Barber and Mourshed (2007), the foremost reasons for becoming a teacher in most of the world's developed education systems, such as Australia, Belgium, Canada, Cyprus, France, Netherlands

and Slovakia, are intrinsic rewards and the altruistic desire to assist the younger generation to triumph. However, the motivations are, to some extent, assisted by a gamut of several other factors, for instance, the push factor from family members; former teachers; the desire to work with students; and the desire to have an impact in one's immediate community and the nation at large (Taylor, 2006). In a survey carried out by Watt and Richardson (2006), among 1 653 first year student-teachers at three Australian universities, a resonate of the above intrinsic and altruistic motivations was made with the lowest rated motivation being the choice of teaching as a 'fall back' career and the social influence of others such as teachers, parents, friends and other family members.

In contrast, teachers in less developed countries such as Cameroon, Jamaica, Zambia and Zimbabwe seem to be attracted to teaching by extrinsic factors, such as career status, salary and job security. This is quite a turn of the tables compared to what motivates teachers in OECD countries (Watt and Richardson, 2008; Thomson, et al, 2012). A purposive sample used in Malawi by Mtika and Gates (2011) revealed that trainee teachers are attracted into teaching by their failure to secure a more decent career choice. They regard teaching as a springboard career that provides them with the opportunity to professionally upgrade later in life. Teaching is thus taken to be a mere vocation with most pre-service teachers wanting to move on within the first five years. In this regard, one would not expect such teachers in transit to execute their teaching responsibilities wholeheartedly, particularly the more demanding CAR responsibility. Such teachers are likely to be comfortable with their mediocre performance and that of their pupils. Additionally, teacher educators need to recognise that "not all who enter teaching do so for positive reasons (some drift into teaching) because of a lack of suitable alternatives or to escape less palatable jobs" (Ashby, et al., 2008:5). Consequently, one would expect profound disparity in teacher reflectiveness or CAR proficiencies, in relationship to the driving force on initial teacher education entrance.

Lecturers and teachers alike, particularly in developing countries where nations

operate under shoe-string budgets, are subjected to a uniform pay scale purported to have been negotiated by teachers' associations (Greene and Forster, 2008). Their salary tends to be egalitarian, with all educators with the same professional qualifications and years of service being bunched on a similar salary rung. The pay scale does not take into cognisance one's overall performance. No matter how well or how badly one teaches, teachers and lecturers more often than not are remunerated the same. Therefore, this means that mediocre education practitioners have little incentive to work harder. In comparison, high-performing individuals have little reason, besides factors such as personal enjoyment or altruism, to engage in CAR that certainly demands more time, energy and zeal.

The age of people entering ITEPD is quite crucial. Deacon (2012) notes that the older the student teacher, the more committed he/she tends to be since young teachers often view teaching as a career path to other more lucrative careers, particularly in developing countries. According to Ashbhy et al. (2008), experience in UK indicates that the age range of people entering teaching has widened, resulting in more than a third of new trainee teachers aged over thirty. Ashbhy et al. (2008) further argues that the older student-teachers are, in most instances, the more mature they tend to be and have more pre-training experience which is often of great value to CAR opportunities during their ITEPD. However, the disadvantage of having older student teachers is that they are often family people who bring with them several family responsibilities that may work against their CAR commitment.

Although research on how gender influences one's decision in becoming a teacher appears inconclusive, gender has been observed by several educationists to be a notable determinant of student-teachers' professional motivation (Deacon, 2012). For instance, it is believed that due to their nurturing nature, females benefit teaching, particularly at primary education, in contrast to male teachers who tend to be attracted by extrinsic aspects (Ashby et al., 2008). According to MacBeath (2012), studies in several African states point to the claim that a significant proportion of pre-service teachers perceive teaching at primary, particularly at infants' level as a feminine job

and thus carries with it low status. Additionally, one would deduce that there could be some gender patterns on the commitment and achievement levels of student teachers in their CAR projects of which teacher educators should take cognisance.

Taking into account the entry qualification for ITEPD, literature reveals that teaching in OECD countries is fast becoming a Master's profession (Taber, 2010). In the majority of education systems one is thus required to have at least a Bachelor's degree in education or equivalent. The same policy seems to have been adopted by a handful of developing countries who now regard teaching as an undergraduate profession. For instance, in South Africa, the standard qualification for ITEPD in any learning area, subject and phase is a four-year Bachelor of Education (B.Ed.) degree or equivalent (DHET, 2011; DoE, 2006).

The degree should include an equivalent of one year full-time supervised practicum in schools. Alternatively, holders of recognised non-educational degrees are required to obtain an Advanced Diploma in Education as an ITEPD qualification. The one-year Advanced Diploma replaces the SA Post-Graduate Certificate in Education (PGCE) and the Higher Diploma in Education. In contrast, virtually all SSA education systems still have an inferior entry qualification into ITEPD for both primary and secondary education.

The Diploma in Education is the minimum qualification for SSA teachers, other than SA. The teachers would have attained an Ordinary level certificate of secondary education, marking 11 years of formal education and having undergone teacher education and development for two or three years in a teacher education college (Komba and Nkumbi, 2008; Ministry of Education, Sport, Culture and Higher and Tertiary Education, 2004; University of Zimbabwe, 2013). In the case of Zimbabwe, one is admitted as a teacher candidate if he or she has at least five Zimbabwe General Certificate of Education Ordinary-Level (ZGCE O-Level) passes at Grade C or better (University of Zimbabwe, 2013). The five passes should include English Language, Mathematics and Science. Advanced-Level (A-Level) passes, that is, Senior

Secondary Education is ordinarily an added advantage. Such teacher candidates then undergo three years of an ITEPD programme. The outlined disparity on ITEPD entry qualifications, all things being equal, is assumed to have a strong bearing on the general proficiency of associated teacher candidates in CAR and related pedagogical knowledge.

2.15 Student-teachers' perceptions of teaching

Besides age and gender, considered as significant determinants of student teachers' preparedness to develop into effective reflective teachers, trainee teachers are known to bring with them some preconceptions about teaching and learning. Such constructs are influenced mainly by the way in which they themselves were taught during their 'formative' days. In this regard, teacher educators should have a better understanding of such misconceptions on both teaching and learning such that they can offer the requisite prop-up strategies or support systems. Such interventions, according to Ashby, et al, (2008) improve the quality of ITEPD programmes in general, CAR prowess and reduce dropout or later withdrawal from the profession. However, it should be appreciated that no ITEPD programme can fully develop in pre-service teachers' attitudes, skills and knowledge required of a professional teacher. This can only be achieved through developing in student teachers attitudes, skills and knowledge for lifelong learning (Hammerness, et al, 2005a; MacBeath, 2012) which are the premises of CAR.

2.16 Teacher attrition

Finally, it suffices to observe that not everyone who studies teaching wishes to retire being a teacher. Some want to teach for say several years and move on through alternative career paths. Such 'fly-by-night' teachers may not be expected to invest much in CAR. Watt and Richardson (2008) opine that in a survey of 510 Australian student-teachers, slightly more than 50% (225) expressed their intention to work as teachers for their entire working life. In addition, a significant proportion of the

respondents, 26% (132) demonstrated high aspirations for professional development and leadership roles in careers outside teaching. Such trainee teachers, therefore, desired teaching for a short term and may not be motivated to engage in CAR opportunities during their ITEPD programme and in subsequent years. In view of the above, it follows that lecturers' familiarisation of new teacher attrition trends may be handy in developing in teachers' requisite CAR attitudes, skills and competencies. For instance, Jensen et al. (2012) observe that high new teachers' attrition rate has been recorded in most education systems with some OECD countries having close to half of their new teachers leaving the profession in their early years of teaching practice. For instance, it was reported that more than 30% of new teachers leave the profession in the USA within five years of their teaching (Ashby, et al, 2008). In South Africa, on one hand, young teachers aged 25 to 29 have the highest attrition (ELRC, 2005). Reasons for leaving the profession vary from workload, the school environment, low salary and personal circumstances (Ashby et al., 2008). Surprisingly, it is the younger teachers who tend to leave the profession more. In UK, there is a positive correlation between high attrition rate and teachers of low-achieving learners. Other attrition or teacher retention determinants are said to be gender, race, subject taught, qualifications, school size, location, resourcefulness and learner composition (Guarino, Santibanez and Daley, 2006).

2.17 Teacher standards

Besides a gamut of teacher motivational factors examined above, the world over, a teacher is expected to meet certain international best standards of knowledge and competence (DoE, 2007; Teaching Council, 2012; Thrupp, 2006; UK DoE, 2011; University of Arizona, 2011). Such standards tend to be uniform for most education systems. The University of Arizona, (2011: Clause VI) seems to justifiably summarise the international best standard with regard to CAR. The provision states that:

Teacher candidates and teachers at all career levels should demonstrate a commitment to the academic programme and education by questioning and testing their assumptions about teaching and learning and exhibit their knowledge through inquiry, critical analysis and synthesis of the subject.

Overall, the benchmark standards demand that teachers should have in-depth knowledge of the subjects they teach; be aware of the characteristics, needs and learning capabilities of their learners; employ appropriate pedagogical techniques in managing their learning environment, and use various forms of assessment to measure educational achievements. Internationally, teachers are expected to reflect on and improve their everyday practices in conformity to specific professional norms (Deacon, 2010; UZ, 2013). An analysis of teacher standards documents from different developed countries (Arizona, Australia, California, England, New Zealand, Ireland and Ontario) reveals the uniformity of what teachers are expected to know, do, embody or uphold (AATE, 2002; GTC, 2005; NZTC, 2008; OCT, 2008; TDA, 2007; UK DoE, 2011; University of Arizona, 2011). All the seven countries are developed economies, Western, English-speaking and have shared histories. A look at teacher standards in developing economies (DoE, 2007; UZ, 2013) reveals that OECD teacher standards resonate with what is obtained in many parts of the world, particularly Sub-Saharan Africa (Zimbabwe and South Africa included). The structure, wording and form of presentation of the teacher standards may differ, but the intention with regard to what it takes to be a life-long teacher (teacher researcher) is almost similar, evident of gross educational policy importation. According to Deacon (2012), all the countries' teacher standards refer to who, what, where and how, that is: who is taught, who teaches; what is taught; where teaching and learning occurs; how one teaches and plans to teach, and how learners (and teachers) learn, and how they are assessed. 'What to teach' appears to be more overarching priority in the standards in Australia, New Zealand and Northern Ireland than in California, England and Ontario. Northern Ireland and England, on one hand, emphasise more on issues to do with 'how to teach' than the other OECD member states. The commonalities in teacher standards suggest that more effort is being made internationally to shape teacher competences from without, that is, through enforcing particular policies and regulations from their initial teacher education. The CAR trajectory seems to resonate on all teacher education frameworks.

2.18 Classroom action research empirical evidence

As stated in the preceding chapter, literature on the CAR process seems abundant but that on its implementation is scarce, particularly involving pre-service teachers' and lecturers' perceptions and capacity. The paucity is in spite of the appreciation of the premise that teacher research should be the norm in an environment where classrooms are characterised by heterogeneous learners, particularly in this age of information explosion (Arias, 2007; Rock and Levin, 2002; Rossouw, 2009). A review of international literature shows that most CAR accounts tend to focus on beginner teachers' and in-service teachers' reflections on CAR at the neglect of pre-service teachers (Deacon, 2012). It was prudent to also inquire from pre-service teachers since they would be having fresh memories of their initial CAR experiences. CAR accounts in most developed economies' educational systems tend to concentrate on action research experiences of graduate and post-graduate in-service teachers (Brown, 2002; Hine and Lavery, 2014; Lelliott, et al, 2009; Segal, 2009). Most of the post-ITEPD CAR inquiries tend to concentrate on the teaching and learning of Science, Technology, Mathematics and English as a Second Language (ESL). These four subjects seem to be viewed as more equal than other subjects at both primary and secondary school level, whose attainment levels seem to positively correlate with international comparison of students' achievements. The concentration of CAR accounts at post-graduate level certainly neglects the goings on at the initial teacher education and development level.

Taking into account experiences in Zimbabwe, focusing on CAR inquiries at undergraduate and post-graduate levels could be too late a summative evaluation. As a consequence, there was need to have an in-depth insight on how the CAR methodology was implemented upon trainee teachers at the primary education phase during their initial professional development. Furthermore, action research implementation enquiries tend to solicit for teacher perceptions with regard to the utility of CAR in developing reflective teachers. Curriculum change literature is rather mum on the teacher educator perceptions and capacity to develop requisite CAR

knowledge, competencies and skills. There is a tendency to assume that the CAR lectures are well prepared, delivered, supported and student teachers well supervised. Consequently, all things being equal, the action research ball seems to be left in the student teachers' court to run with it and eventually report back on the impact thereof to teaching and learning. Such practice should certainly be castigated at the onset if researchers are to make a fair scrutiny of the relationship between teacher quality or reflective proficiency and learner achievement, and between the quality of initial professional education and development of teachers and teacher quality.

An analysis of a couple of CAR accounts done in Mathematics, Science and Technology plus the teaching of English as a Second Language (ESL), the world over (Brown, 2002; Hine and Lavery, 2014; Lelliott, et al, 2009; Segal, 2009) show that student teachers are made to experience more of content knowledge in the different subject areas. Deacon (2012) observes that trainee-teachers were made to go through content similar to that covered at senior high school or advanced level. In the case of ESL, with regard to reading instruction, not much time seem to be devoted to reading readiness instruction in spite of it being acknowledged as a valuable element to ESL learning, especially, in primary education. The exposure of trainee teachers to too much of subject knowledge is on assumption that the content knowledge will automatically be transferred to pedagogical knowledge. Overall, CAR in ITEPD is urged by several authorities to focus on how to teach the subject knowledge (Akyeampong et al., 2011).

The authors further stress that to have a nexus of more ITEPD programmes to realities of classroom practice; student-teachers should be deliberately exposed to school curriculum materials focusing on how to teach (Akyeampong et al., 2011). This would foster narrowing the gap between theory and praxis. In pursuant of the above, the South African government introduced its Policy on Minimum Requirements for Teacher Education Qualifications (MRTEQ) (DHET, 2011). The MRTEQ replaced the Norms and Standards for Educators (SA DoE, 2000). The South African Higher Education Qualifications Committee (HEQC) recommended that to improve the

overall quality of ITEPD achievement levels in virtually all needy curricular areas, such as CAR, there is need to urgently consider improving on the qualifications of both student teachers and those staffing ITEPD programmes. Pursuant to the above, the HEQC mooted the need to come up with minimum requirements for qualifications for teacher educators.

The MRTEQ recommended that universities should undertake rigorous professional screening of prospective teacher candidates prior to their ITEPD admission. Additionally, when admitted, the pre-service teachers deserve to be given more support (DHET, 2011) seemingly in sync with the dictates of the Rogan and Grayson's (2003) Curriculum Implementation Framework. The South African's MRTEQ acknowledge that teacher educators, on one hand need to be more involved in curriculum design and policy implementation. They need to link their teaching to their research (DHET, 2011). The DHET (2011) clearly outlines the minimum set of competences required of pre-service teachers and lecturers alike, namely: sound subject knowledge; pedagogical knowledge; understand their individual needs and customise their teaching accordingly; effective communication; highly developed literacy, numeracy and ICT skills; in-depth knowledge of the school curriculum and being able to unpack its specialised contents; and being able to identify learning problems and work towards ameliorating them. Furthermore, pre-service teachers are expected to have positive work ethics and thus conduct themselves in a way that befits the teaching profession. The DHET (2011) underscores the need for CAR competencies among pre-service teachers when they state that pre-service teachers must be able to reflect critically on their individual teaching practice and that of colleagues in order to improve it and adapt it to evolving educational circumstances. It should be noted that the fore mentioned teacher competencies retain and reinterpret the pre-21st century seven educator roles resonated internationally, namely: subject or learning phase specialist; learning mediator; interpreter and designer of learning programmes and materials; educational leader, administrator or manager; scholar, researcher and lifelong learner; assessor; and a community, citizenship and pastoral role (AATE, 2002; GTC, 2005; NZTC, 2008; OCT, 2008; TDA, 2007; UK DoE, 2011;

University of Arizona, 2011).

Teachers across the world, for a couple of decades now, have been under pressure to alter their knowledge and their practices in conformity with a range of professional expectations, standards, regulations and performance measures (OECD, 2011; Villegas-Reimers, 2003). In South Africa, for instance, the Norms and Standards of 2000 and its official replacement, the MRTEQ (DHET, 2011), are part of such efforts, coupled with emphasis in producing life-long learners who appreciate and practice CAR. CAR acknowledges that a state's educational frameworks serve to regulate but cannot teach hence reliance in competent teacher educators and quality ITEPD programmes. Deacon (2012) notes that it is essential that the teacher educators or lecturers entrusted with the task of developing CAR skills and competencies approve of it and take an interest in it. It is only when teacher educators themselves live it, that they will be able to bring CAR to life. This shows that it is inadequate to prescribe to teacher educators and the generality of teachers alike what they have to do, they must be nurtured to appreciate the educational prescriptions. Fullan (2008a) opines that it is only curricular strategies that teachers have full ownership and appreciation of what they implement in the classroom.

2.19 Summary of the reviewed literature

This chapter provided an overview of the genesis of CAR. Three of the methodology's predominant models were examined culminating in the espoused Eclectic CAR Model proposed by Brown (2002). The eclectic five-phase CAR model integrates steps from each of the other three models discussed and adds the process of reflection as a deliberate step that occurs throughout the entire CAR process. It was underscored that the inquiry is guided by three theoretical frameworks in line with the adopted pragmatism design. These are the experiential learning theory (ELT), the curriculum implementation framework (CIF) and the living educational theory (LET). The theories have a strong bearing on reflective practice which is the kernel of classroom action research. They also acknowledge the subjectivity of truth in education obtained

through circumstantial experiences. The theories give attention to divergent views. Whitehead's (2005) LET was adopted as a suitable theoretical framework befitting CAR open inquiry. LET denotes utilisation of rigorous validation processes to meet research trustworthiness. The pros and cons of undertaking CAR, in general, were outlined and examined. Overall, it was emphasised that self-study fosters educational practitioner's introspection and working towards self-improvement. It has been acknowledged that CAR opportunities help in nurturing effective teachers. Consequently, it is thus deduced that CAR is an integral component of any ITEPD programme. Additionally, it was stressed that CAR has to be systematically, intentionally and critically planned and implemented. Arrays of factors that impact on the implementation of CAR in any ITEPD initiative were also examined. These ranged from multiple lecturer capacity factors and teacher factors, such as, age, gender, teacher attrition trends, basal or entry qualifications and candidate-teachers' perceptions of teaching. Organisational determinants included deliberate engagement of student teachers in CAR; use of modular structure in information dissemination; collaboration between teacher educators and student teachers, and competent use of ICT by both lecturers and student teachers. The next chapter presents the research design and methodology for the study.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

It was the essence of this chapter to examine the research methodology. Methodology in research, generally, refers to the strategy or plan of action that links research strategies to outcomes and governs the choice of strategies (Bogdan and Biklen, 2007). This study was guided by the mixed methods research approach which is informed by pragmatism as the paradigm upon which the study was located. Below is a detailed description of the outlined methodological aspects. These include the research paradigm, research approach, research design, population, sample and sampling procedures, data collection instruments, data analysis, issues of reliability or trustworthiness and ethical considerations. A detailed description of the research process was made on the conviction that research dependability, applicability and replicability could only be realised by research consumers if they understood the research process (Bogdan and Biklen, 2007; Borg, Gall and Gall, 2006). What follows is a description of the research design, the development of the research instruments and their implementation. An attempt was made to give *in situ* justification for each decision made.

3.2 Research paradigm

Research paradigm is a set of assumptions or beliefs about aspects of reality which give rise to a particular world view (Maree, 2007). It serves as the lens or ground by which reality is interpreted by a community of researchers. The shared orientation is drawn from shared assumptions, conceptions, values and practices on how scientific practice is understood and is believed to be operationalised (Becker and Bryman, 2004; Johnson and Christensen, 2012). Pragmatism is conceived as an all-encompassing philosophy upon which an investigation is underpinned drawn from

these dimensions: ontology, epistemology and methodology (Shumba, 2011). Where ontology is defined as the nature of reality with regard to the issue under investigation, focusing on what is to be solicited as real knowledge. According to van Rensburg, (2001), ontology denotes the philosophical discourse on the comprehension of reality. It deals with the nature of what exists (reality). Ontology seeks to answer the question: “What is the nature of social reality?” (Lincoln, Lynham and Guba, 2011). Taking into cognisance of this study, the ontological question was “What is the nature of CAR implementation in teacher education colleges?”

Epistemology focuses on the relationship between the researcher and what is to be known. The term ‘epistemology’ has its roots from the Greek word episteme which is the Greek term for knowledge (Krauss, 2005). Epistemology is the study of how society knows what is to be known and how people think they know what is to be known. Krauss (2005) opines that epistemology focuses on the nature of knowledge, that is, what constitutes authentic knowledge; what can be known and who can be a knower. It is thus a philosophy that hinges on knowledge or how humanity comes to know. Overall, epistemological assumptions are therefore centered on the nature of knowledge and the relationship between the researcher and the researched (Creswell, 2014; Guba and Lincoln, 2005). Lincoln, Lynham and Guba (2011) in concurrence with Krauss (2005), note that epistemology revolves around the following nucleus questions: How do we know what we know? What counts as knowledge? How can a researcher obtain the desired knowledge and comprehension? What is the relationship between the knower and what is known? Methodology deciphers how the researcher goes about investigating with rigor and credibility what he or she believes is worthwhile knowledge. Methodological assumptions are beliefs about the process of generating knowledge (Lincoln, Lynham and Guba, 2011). The central question in methodology is: How does the knower obtain the desired knowledge and understanding (Mertens, 2010). Methodological assumptions, therefore, define the researcher’s stance in research design and methods.

Meanwhile, it should be underscored that the foresaid dimensions are not discrete but

considerably intertwined, each playing a complimentary role. As put forward by Krauss (2005), epistemology is intimately related to both ontology and methodology. The author argues that as ontology involves the philosophy of social reality, epistemology addresses how humans come to know that reality. Methodology on one hand identifies the particular practices used to attain the knowledge. Additionally, it should be noted that authorities use an array of terms as synonyms to the word paradigm. Such synonyms are framework, world view, knowledge claim, orientation and tradition (Creswell, 2013; Guba and Lincoln, 2011; van Rensburg, 2001). The term 'world view' was however, commonly used interchangeably with paradigm in this study. Paradigm was succinctly defined as the route-map that should be followed by the research process, right from the research planning stage, data collection, data interpretation through to the ultimate report writing, culminating in the outline of tentative research recommendations. Consequently, would have been foolhardy to embark on an educational enquiry without first settling on a particular paradigm since it had strong bearing on subsequent choices regarding research design, methodology, literature consulted or reviewed and the generic research approach. It should be underscored that a paradigm defines what should be studied, the nature of questions of enquiry and how research findings should be interpreted. A research paradigm is therefore tantamount to a building foundation that holds together the entire research process (Shumba, 2011). Establishment of the research authenticity and rigour are dependent on trustworthiness of the research paradigm.

Meanwhile, it should be asserted that there are different paradigms or knowledge claims that have taken root in contemporary research, namely: critical science; interpretivism; constructivism; positivism; post-positivism; pragmatism and realism (Mackenzie and Knipe, 2006). The paradigms' disparities are, relatively, dictated by variance in the three dimensions, namely: ontology, epistemology and methodology. Since it is beyond the scope of any thesis to exhaustively interrogate each paradigm, this study further elaborates two of the most popular world views (Creswell, 2014; Denzin and Lincoln, 2011), namely: positivism and interpretivism/constructivism.

Table 3. 1 Comparison of research paradigms

Paradigm	Ontology	Epistemology	Methodology
Positivism	-stable external reality -law-like testing	- objective -detached observer	-experimental - quantitative -hypothesis
Interpretivism	- internal reality of subjective experience	-empathetic -observer subjectivity	- interactional - interpretational - qualitative

Source: Adapted from Creswell (2014); Lincoln, Lynham and Guba (2011); Mwanza, (2014)

3.2.1 Positivism

Table 2 illustrates that the positivist ontology sees knowledge as stable, external and is best tested through tried and tested laws of cause and effect relationship between variables. Positivists hold to the ontology that reality is always explained through the cause and effect laws (Lincoln, Lynham and Guba, 2011). The associated epistemology is objectivity that espouses the utilisation of hard-core experimental methods. Positivism is thus a scientific paradigm that is strongly propelled by objectivity. It has overarching commitment to empirical evidence that can be quantified as inferential facts. The main inadequacy of this world view is its reductionist stance of nature, where life is perceived to be measurable in scientific terms rather than subjectively, through say the use of personal life experiences, individual freedom of choice, moral responsibilities or rationale living organisms that certainly do not behave mechanically (Cohen, Manion and Morrison, 2007). It is on the basis of these shortcomings that the researcher found it inappropriate to locate this study in the positivism paradigm, particularly in view of the fact that the investigation sought to

solicit the multiple perceptions and voices of the diverse stakeholders in an attempt to understand the lived experiences or social reality. The problem in question being social in nature, educators seem to concur that research methodologies that are too scientific in nature are not always relevant to solving educational problems. Positivism being a closed system of thinking did not benefit its adoption.

3.2.2 Interpretivism

Interpretivism on the other hand, stresses that knowledge is internal to the individual and subjective (Table 3.1) in trying to describe and have an in-depth comprehension of humanity. Knowledge subjectivity and idiographicity in the paradigm is attributed to the fact that what counts as truth is contextual, depending on place and time. This is in contrast with positivism where emphasis is in looking for consistencies in data in order to deduce nomothetic laws (Gray, 2005). Interpretivism thus espouses the construction of multiple realities (Denzin and Lincoln, 2008). Research methodologies associated with interpretivism are more often case studies, ethnographic, naturalistic, phenomenological and qualitative. Related data gathering is realised through interviews, in their various forms, observation and an analysis of documents and artefacts, such as diaries and souvenirs.

This is in contrast, for instance, to positivist research strategies that underscore the use of precision, measurable variables and verifiable observations (Tashakkori and Teddlie, 2003a), through say inferential statistics. According to Shumba (2011), epistemologically, in qualitative research, it is assumed that the knower and the known are interdependent and that research is subjective and can only be understood better by placing oneself in the position of the participants. Ontologically, interpretivists assume that reality is socially constructed and dynamic. Social reality is thus the consequence of what has been negotiated within cultures or social systems. This makes truth quite individualistic, subject to an individual's or communal interpretation of reality. The major inadequacy of the epistemology is that it compromises the plank that ideas exist independent of the knower, hence the researcher's neglect in its

adoption as an appropriate paradigm upon which this enquiry could have been based. According to Cohen, Manion and Morrison (2007), the other major criticism against interpretivism is that social reality cannot be left to the whims of individual members of society since social cohesion is necessitated by a shared world view. It is argued that over reliance on participants' stories may lead to making inaccurate conclusions of crucial facts of life due to incomplete and misleading data from informants.

Overall, it should be pointed out that the various research paradigms are not in any way in contention but highly intertwined, defined by differences in ontological, epistemological and methodological persuasions. The different paradigms are the basis upon which an inquiry is adjudicated. In view of the above, it is central that a researcher declares the research paradigm to which she or he subscribes in any inquiry since it provides the road map to be pursued in an investigation. The paradigm, upon which this study was underpinned, as was dictated by the related research questions, was pragmatism. The research paradigm attempts to tap on the strengths of both empirical data and the theoretical sentiments drawn from the respondents. Discussed below are the major tenets of pragmatism.

3.2.3 Ontological, epistemological and methodological persuasions of pragmatism

Pragmatism is a philosophical tradition whose origin is traced back to the United States of America (USA) around 1870 (Brandom, 2011). According to the author, notable classical pragmatists are Charles Sanders Peirce (1839–1914), William James (1842–1910) and John Dewey (1859–1952). The influence of pragmatism is reported to have declined drastically by the half mark of the twentieth century but gained momentum since the 1970s. The surge in popularity, according to Bacon, (2012) is attributed to increase in appreciation by subsequent philosophers who started to deliberately utilise the writings and ideas of classical pragmatists. The author notes that this saw the emergence of reputable thinkers in the mold of Hilary Putnam, Richard Rorty and Robert Brandom. The core of pragmatism is the pragmatist maxim.

The maxim underscores the fact that hypotheses are clarified by tracing their practical consequences or truth. Overall, pragmatists share a distinctive epistemological view to how inquiry should be conducted.

In spite of the notion that pragmatism was relatively in eclipse in the bulk of the twentieth century, the works of John Dewey seem to have kept the smother and eventually influenced the evolution of neo-pragmatists. According to Bacon, (2012) philosophers revived interest in the writings of classical pragmatists during the 1970s and their ideas became widespread. Consequently, pragmatist ideas became a major game changer to educational philosophy. Over the years, philosophers seem to have developed interest in the nexus between pragmatism and idealism (Burke and Larry, 2014; Bryman, 2016). Classical pragmatism is concerned with reconciling claims of science with those of religion and morality (Hildebrand, 2003). Philosophy is perceived relatively as the clash between the 'tough minded' and the 'tender minded' in perceiving phenomena. The tough minded view has commitment to empirical evidence that can be quantified as inferential facts. The tender-minded view has a profound taste for a priori principles which appeal to the mind. It can be deduced that tender-minded philosophers appear to be idealistic, optimistic and religious, while the tough-minded ones are materialistic, pessimistic and irreligious. According to Hildebrand (2003), the tender minded are 'free-willist' and dogmatic whereas the tough minded are 'fatalistic' and skeptical.

Pragmatism claims that to comprehend the world better a more neutral world view is needed that draws the strength of both the empiricist and the idealist. It appreciates the need to be informed by inferential statistics but finds room for religious beliefs. Pragmatism is therefore presented as the 'mediating philosophy' between the tender-minded and the tough-minded. It argues that adherence to epistemic standards does not prevent one from adopting the worldview with an inclination to the tender-minded perspective. The polarisation between philosophers associating themselves with a particular worldview at the condemnation of the other is thus vehemently rejected. Pragmatism attempts to overcome the above inadequacy by an in-between

perspective or mediating philosophy that stresses the complementarity of science, morality and religion (Bacon, 2012; Hildebrand, 2003). It acknowledges that the 'tough minded' and 'tender minded' paradigm are not in competition but are mere revered windows through which humanity comes up with multiple truths with regard to phenomena. Consequently, pragmatism is in succinct rejection of the existence of an overarching dichotomy between practical judgments and theoretical judgments. Schwardt (2001) declares that all research is virtually interpretive. In that view, the tendency to come to grip with one's identity as a researcher by aligning oneself to a particular research paradigm or methodology is not of much significance as is often assumed. Consequently, researchers are advised to dissociate themselves from the mentality of departmentalism.

Overall, Brandom (2011) posits that it would be foolhardy to assume that pragmatists over the years have been homogeneous on the tradition's theories of truth. For instance, the author notes that Peirce and James use pragmatism in a narrow sense whereas others use it in a more widespread sense, all in an effort to understand an inquiry and the standards that govern the inquiry. However, pragmatists tend to converge on the reverence of the pragmatist maxim and the use of diverse lenses in coming up with multiple truths. The above convergence concurs with Yin (2003) who posits that truth is relative in the wake of the prevalent context. The author recognises the importance of subjectivity in the creation of meaning. However, he further recognises the existence of some degree of objectivity in knowledge construction; hence the existence of some shared truths. These views are in sync with the pragmatism tradition. To have in-depth comprehension of phenomenon in pragmatism, one needs to use multiple interpretive approaches. In this study, the researcher found it appropriate to use both quantitative and qualitative data in a complimentary role in interrogating the main research question and subsequent sub-research questions. The methodology was necessitated by the researcher's conviction to get a more holistic set of answers to the research questions. This prompted the researcher to anchor the study in the mixed methods epistemology, drawing features (those that work) of both interpretivism and constructivism. The existence of absolute truth of knowledge

(Creswell, 2014) in the positivist sense is thus rejected in sync with postmodernism orientations.

3.2.4 Rationale for adoption of pragmatism

The primary reason for settling on pragmatism in this study was the nature of the problem, as alluded to above. The implementation of CAR is a complex matter that calls for divergent support systems and strategies. Therefore, to unravel the intricate characteristics of the subject under interrogation it was prudent that it should be viewed from diverse lenses and multiple data sources used. Triangulation runs through the entire study, that is, from the design stage through to data interpretation and recommendations. Since it is the wish of every researcher to produce credible research findings, the researcher found it prudent to take the pragmatic route so as to come closer to the objective situation obtaining on the ground without being bogged down by a persuasion to belong to one research camp at the expense of the other research paradigm. With postmodernism, it is important that research finds should be appropriate solution in a particular context, that is, place and time. Similarly, the answers to the research questions in this study had to be contextual. This means that the generalisability of the research findings was not the focal point of the inquiry.

Ryan (2006) posits that postmodernism has faith in quantitative methodology, whose merits include providing a wide spectrum of research patterns or trends. To solicit for such research trajectory the study made use of statistical data while allowing the researcher to follow up and get explanations of the outliers through qualitative orientation. The researcher being a seasoned teacher educator, who actively participated in the teaching of action research in teachers' colleges, certainly brought into the fold some degree of subjectivity. His experiences in initial teacher education and development in Zimbabwe may not be completely detached from the inquiry. In that view, some degree of influence of the researcher's experiential knowledge may lace the discussion and interpretation of the research findings.

The researcher's postmodernist stance has a number of strengths as is illustrated in this research's segment. Younkens (2002) asserts that the fact that postmodernists consent to the ideas of altruism, anti-realism, anti-individualism, egalitarianism, collectivism, scepticism, subjectivism, relativism and pragmatism is a commendation. Additionally, it is endorsed that the universe is conflictual and contradictory in sync with the fact of life. Reason is acceded to take a rather subsidiary role in guiding human action compared to emotions and instincts. Postmodernists assert that all concepts or claims to truth are continuously deconstructed in a never-ending process. It may be deduced that postmodernism proposes that reality is socially constructed and pluralism is acknowledged as a true fact of life. Postmodernists show contempt of the modern ideas of linear progression, rationality and one right way of explaining phenomenon or doing things. They pour scorn on paradigms that attempt to explain the social world and its natural laws in universal terms, assuming that the scientific laws apply equally to all people in all places and times (Henderson, 2011), hence the researcher's aim to interrogate the contextual implementation of CAR in the selected educational institutions.

Meanwhile, it should be put on record that postmodernism revolves around the following five major heads of argument: universal truth is unattainable; no ideas or truths are transcendent, i.e. knowledge is always within the range of the human experience; all ideas or truths are culturally or socially constructed; historical facts are not central in determining human action, and ideas are only worthwhile if they are of benefit to the oppressed societal members (Younkens, 2002). Consequently, in this study, the researcher finds it prudent to ride on post-modernism which is a genre of the pragmatism continuum. The choice was justified by the fact that pragmatism enables concurrent utilisation of both qualitative and quantitative methods in an inquiry which certainly provide a holistic answer to the research questions, particularly through the use of multiple research strategies (Henderson, 2011; Hutton, 2009). The utilisation of diverse methods was relevant to this study in that the researcher was interested in gathering diverse evidence that could be used to examine the delivery of CAR by teachers' colleges. The researcher maintained interest in both qualitative and

quantitative dimensions of the investigation to cross check on subjective concerns that could arise from solicited responses.

3.2.5 Pragmatism impediments

Pragmatism, as is the case with virtually all philosophical traditions, has both merits and demerits. However, the researcher hastens to note that the pros seem to outweigh the cons. Nonetheless, outlined below are some of the notable impediments associated with the word view. First, since pragmatism focuses on that which works, it does not provide clarity on the criteria for choosing the best of designs, approaches or methods among the multiple choices. On that basis, pragmatism may appear quite chaotic (Weaver, 2006). Ontologically, pragmatism may not be as flexible as it claims. Additionally, it lacks data generalisability and reproducibility (Blaikie, 2007; Creswell, 2003; 2014).

The study sought to understand CAR implementation in ‘real-world-setting’ where the researcher made no attempt to manipulate the phenomenon of interest (Hennink, Hutter and Bailey, 2011). Real-world setting, in this context, denotes that the researcher does not deliberately nor by implication attempt to use one’s preconceived perceptions to interfere with the research process. It is succinct that the researcher does not intrude in the research process, particularly when collecting data (Neuman, 2006). In view of the foresaid, it is justifiable to have adopted the pragmatic paradigm as it enables the researcher to interact with research informants in their natural setting and interrogate CAR strategies in place, prevalent support systems and associated impediments. Furthermore, the paradigm had no pretense nor hypothetical set up as insight was solicited on the real CAR implementation process on the ground. Qualitative strategies attempt to solicit a rather holistic and in-depth understanding of the impediments faced by the various players in CAR implementation in IPEDT. The study inclined more to the qualitative dimension of the mixed methods research continuum since it aimed to discover the goings on in teacher education colleges, in relation to the implementation of CAR, other than verifying any predetermined

hypothesis. Approaches employed included interviews, analysis of documents, questionnaires and focus groups, to solicit data which create an open environment for the participants to express themselves freely. The researcher interpreted the living experiences of the research informants from their own point of view (Babbie and Mouton, 2010). The researcher looked at the phenomenon in totality. To enhance the credibility of the inquiry, the study was described in detail such that readers can draw own conclusions from the presented data (Leedy and Ormrod, 2013). The researcher also sought opinion from colleagues with proven experience in ITEPD in order to ascertain the accuracy of his data interpretation and collated research findings.

Qualitative theorists regard a researcher as the principal tool of data collection and analysis (Merriam, 2002; Hine, 2013 Heming, et al., 2004). This concurs with Burke and Larry (2014) who opine that a researcher has to be quite skillful in order to obtain the intended data from the research participants. The assertions underscore that a researcher should have the capacity to read between the lines and have an intelligent eye for data analysis. Furthermore, to ensure that in-depth comprehension is made of the phenomenon of concern, it is advisable that a researcher should limit his fieldwork to a small and manageable sample (Merriam, 2002; Bodgan and Biklen, 2007). A representative sample of at least 10% of the targeted population is often recommended for social sciences.

Implementation of CAR in teachers' colleges is a dynamic process that cannot be measured without checking on the beliefs, attitudes, skills and competencies of the participants. Additionally, the process is both complex and intricate for one to come up with definite laws on cause and effect relationships. Pragmatism fosters the finding of meaning to the encountered CAR experiences. For instance, the qualitative methodology gives the researcher the autonomy to give own interpretations to issues under study (Krauss, 2005). Consequently, an attempt was made in this discourse to resonate with the voice of the participants by capturing their verbatim accounts. In that way, their CAR experiences were relived in their own description.

3.3 Research approach

A research approach denotes the organisational structure of an inquiry. Trochim (2006) likens it to the mortar that binds together all the major components of the research process, right from the research paradigm, research design, methodological procedures through to coming up with research findings. In accordance with Maree (2007), there are three overarching research approaches often adopted by most researchers, namely: qualitative, quantitative and mixed methods research. The author underscores that the disparity in the three approaches is drawn from the distinct answers each approach seeks in an attempt to address the knowledge claims suggested by the researcher. Each approach is claimed to have specific anticipated ontological, epistemological and methodological procedures. This study made use of the mixed methods research approach dictated by the adoption of the pragmatist stance. Pragmatism recognises Mixed Methods Research as the third major research approach besides quantitative research and qualitative research (Collins, Onwugbusie and Sutton, 2006). The approach is also known by its various terms such as integrative research, blended research, multi-method research and mixed research (Johnson, 2000; Johnson and Onwuegbuzie, 2004; Morse, 2008). The diversity in names is testimony that mixed methods research is defined differently by different authors. The common theme, however, seems to be in referral to mixing in inquiry. However, it should be pointed out that the mixing cuts across the entire inquiry process right from the research design, research methods and data analysis. The term 'method' in mixed methods research is used as a generic term in describing multiple operationalism.

According to Johnson, Onwuegbuzie and Turner (2007), in concurrence with Brewer and Hunter (2006) and Greene (2006), 'mixed method' is conceived as allowing the incorporation of multiple data collection strategies, such as, questionnaires, interviews, observations, focus groups, member checking and document analysis, and research methods (experiments, surveys and ethnography) and related philosophical concerns

bordering issues to do with axiology, epistemology and ontology. As is the case with any other research approach, mixed methods research is based on specific assumptions, principles and values. These will be interrogated elsewhere in the discourse. Meanwhile, Bazely (2004) cautions that mixed methods are not inherently more important than alternative research approaches. In that view, mixed methods research validity, as is the case with any research, stems more from how appropriate, thorough and effective mixed methods research strategies would have been utilised. This implies that mixed methods research procedures should be applied accordingly and due care given to weighing of the solicited evidence. In short, Bazely (2004) stresses that established rules for controlling research validity in standard quantitative and qualitative research have to be adhered to. The same rules should be followed regardless of mixing the methods.

Mixed methods research dictates that both quantitative and qualitative strategies are mixed at some stage of a single inquiry to address certain aspects of the major research question (Creswell and Plano-Clark, 2007; Maree, 2007) in an attempt to comprehend the research concern more holistically. Since the CAR problem under investigation required examining and exploring it in detail, not only the 'what questions' but also interrogating 'how and why questions', quantitative or qualitative data alone may not justifiably provide requisite answers to the research problem. Similarly, Johnson and Christensen (2012) concede that a single approach often fails to describe the complexity of human beings in its full perspective. The author observes that the breadth, depth and richness of human life come from mixing approaches. In tune with the commendation, qualitative research approaches were utilised in the inquiry to give participants a voice on the issue in question.

Meanwhile, it should be pointed out that in this study, qualitative and quantitative data had equal weighting. Quantitative data were solicited to check on the solicited qualitative claims. Additionally, quantitative data helped in the possible generation of research findings to the entire research population. In mixed methods research, data are collected concurrently or sequentially (Creswell, 2014) and Mwanza (2014).

Concurrent data collection demands that data are collected at the same time or simultaneously (Tashakkori and Teddie, 2003a), whereas sequential data collection implies that the researcher collects both types of data in phases or sequence. This study concurrently collected both qualitative and quantitative data using an array of research instruments, such as semi-structure questionnaires, interview schedules, focus group discussions and documents. The choice of the multiple research instruments was drawn from the nature of the research question: How is CAR implemented in selected Zimbabwean teacher education colleges to ensure more feasible teacher education curriculum? This was on the understanding that the research problem was a crucial determinant of the researcher's choice of mixing qualitative and quantitative research procedures in any study (Creswell, 2014). Table 3.2 juxtaposes the study's sub-research question with the associated research instruments.

Table 3. 2 Research questions and data collection instruments juxtaposition

RESEARCH QUESTION		DATA COLLECTION INSTRUMENTS
a	What is the capacity of college lecturers in the delivery of CAR?	Semi-structured Questionnaire Focus Group Discussions (FGD) Interview Schedule Documents
b	Which strategies are used to implement CAR in teacher education colleges?	Semi-structured Questionnaire Focus Group Discussions (FGD) Interview Schedule Documents
c	What support systems and resources are available in teacher education colleges to enhance the delivery of CAR?	Semi-structured Questionnaire Focus Group Discussions (FGD) Interview Schedule Documents
d	What are the implications of the observed CAR delivery system to the development of an enhanced teacher education and development curriculum?	Semi-structured Questionnaire Focus Group Discussions (FGD) Interview Schedule Documents

Source: Adapted from Maphosa (2010)

Meanwhile, it suffices to note that mixed methods research derives its origin from the debate on the existence of universal truths in viewing the world, espoused by Socrates and Plato, versus the conviction that the world is abound with multiple or relative truths (Greene, 2006). It is an in-between methodological pillar that provides more balanced research findings. Mixed Methods Research appreciates the positive contribution of both quantitative and qualitative viewpoints, in sync with the philosophy of pragmatism (that which works). It is a mixture of methodological extremes as is espoused by Aristotle's golden mean or principle of balance, also called moderate skepticism. The mixed methods research approach was utilised in this enquiry to benefit from the merits of both quantitative and qualitative research, in an effort to get an in-depth understanding of the phenomenon being studied. This was underpinned on the author's conviction that man is the measure of all inquiry whether one decides to utilise inferential or descriptive statistics in an inquiry, uses observations, focus groups or interviews.

The qualitative research approach was mixed with quantitative on the strength that it keeps the investigator close to the required data and facilitates understanding of the phenomenon being studied. Furthermore, documents associated with CAR and its implementation were analysed on the conviction that objects/artifacts or records are a true reflection of the people who generate them. Limitations on the use of qualitative methods, such as failure to establish cause and effect relations were complimented by use of semi-structured questionnaires and soliciting of some quantifiable data through the analysis of documents such as the cohorts' final CAR mark-schedules. However, since cause and effect relations were not the main focus of this study; the chosen integrative research approach adequately met the goal of the study. The researcher simply wished to take the phenomenon as it existed (Johnson, 2011) without attempting to manipulate any variable.

3.3.1 Overview of qualitative research approach in the inquiry

Research is abounding with various constructs of qualitative research. The constructs may be compartmentalised into two major views, that is, those that define qualitative research as a process and those that perceive it focusing on qualitative research characteristic features (Creswell, 2007; Denzin and Lincoln, 2011). As is noted above, qualitative research attempts to interpret social reality as it is without controlling any variable. It interprets the world through representations such as interviews, conversations, records; field notes and photographs. According to Denzin and Lincoln (2011), key characteristics of the qualitative research strategy, focus on the natural context upon which phenomenon occurs. With qualitative research, the researcher is an integral interpretive instrument. Researcher capacity has a strong bearing on the research findings and their credibility. Qualitative researchers often recommend the use of an array of research strategies to come up with comprehensive meaning of phenomena (Creswell, 2014; Krauss, 2005).

Creswell (2014) further advocates the promotion of flexibility, open-mindedness and reflectivity in virtually all research to avoid bogged down by preconceived paradigms. Knowledge construction is espoused opposed to the rigidity of positivism and knowledge verification. It may be deduced that qualitative research seeks to define social reality from the point of view of the social actors in a specific context. In the context of this study, the social actors were teacher educators and identified cohorts of student teachers. Qualitative research was employed in this study to solicit for the social actors' perceptions on the implementation of CAR in the selected teacher education colleges in Zimbabwe. The main objective thereof was to unravel tentative ways upon which the CAR implementation may be improved. The qualitative research approach was adopted in appreciation of the understanding that quantitative research on its own does not have the capacity to provide answers to all research questions of any inquiry (Patton, 2009). The inadequacy was best ameliorated through complimentary utilisation of both qualitative and quantitative research strategies.

Qualitative research was used to enable research participants to voice out their views on the issue of concern. Furthermore, data generated through quantitative research was cross-examined and authenticated through the qualitative strategies. It should be underscored that qualitative research approach was adopted on the conviction that in knowledge generation, the participants' views are pivotal. In that view, participants and the researcher interact with the researcher interpreting the data gathered during the interaction (Creswell, 2014). As is the case with all philosophical frameworks, the interpretivists' stance of qualitative research is associated with specific ontological, epistemological, axiological and methodological procedures. As a matter of emphasis, interpretivists espouse the existence of multiple truths that are a result of diverse social interactions. The multiple realities also imply multiple methods of understanding phenomenon. For instance, qualitative research was underpinned on the belief that researchers and the researched bring to the research arena an array of values that need to be treated with both caution and the reverence they deserve. Additionally, the preconceived values have to be negotiated amicably. The foresaid is clear testimony of how value laden research is. It shows how research bias is somehow inevitable in educational inquiry.

Overall, it is clarified that qualitative research is drawn from the belief that research methodologies are interactional (Henning, Van Rensburg and Smit, 2004). Consequently, this study finds it prudent to use inductive methods in coming up with suggested CAR implementation strategies. The research problem was interrogated within its context without trying to influence any variable. In an attempt to have an in-depth comprehension of the CAR going on in selected teachers' colleges in Zimbabwe, the qualitative research approach was espoused. Focus was on how CAR educational activities unfold and how to improve them in the eyes of data triangulation. Overall, this study attempted to get the living experiences of the social actors, in retrospect, in respect to CAR implementation.

3.3.2 Overview of quantitative research approach in the inquiry

It should be appreciated that the quantitative research continuum has a diversity of approaches based on the number of contacts the researcher has with the research informants, the reference point in time of the phenomenon and the nature of the inquiry (Kumur, 2011). A single contact research according to the author is said to be cross-sectional. A longitudinal contact has more than one contact, usually over a longer period of time. Reference period in an investigation may also be retrospective, prospective or retrospective–prospective (Mwanza, 2014). Furthermore, quantitative research may be experimental, non-experimental and semi or quasi-experimental. This study employed the cross-sectional, retrospective and non-experimental quantitative research approach. As has been referred to above, a cross-sectional approach involves a single contact between the researcher and the researched and the contact was made for a short period (Creswell, 2014; Kumur, 2011). It was the essence of such contact to provide a snap overview of the question on hand. The approach is often used in situations where one intends to give detailed description of the prevalence of an identified variable within a given sample. Furthermore, cross-sectional use is relatively cheap compared to a longitudinal study, where one studies a cohort for say two or more years (Kumur, 2011, Levin and Navo, 2006). The adopted approach was quick to administer and ameliorated low non-response rate. The approach's other plus was that it fostered the researcher to meet set timelines, as data collection was set for three months. Additionally, the cross-sectional quantitative research approach is associated with little disruption of the day-to-day activities of both the research participants and their respective teachers' colleges as most participants were contacted once and left with ample time to continue with their usual tour of duty.

3.4 Research design

3.4.1 Research design conceptualised

Research design denotes the procedures that a researcher adopts for the collection

and analysis of research data (Maree, 2007). Creswell et al. (2003: 159) posits that “Research designs ... provide road maps for how to rigorously conduct studies to best meet certain objectives.” According to Kumur (2011), research design is a procedural plan for answering specific research questions validly, objectively, accurately and economically. Review of research literature testifies an array of typologies of research designs, particularly in mixed methods approach studies. Examples of the research designs are: concurrent triangulation, sequential designs etc. According to Mwanza (2014), the list thereof is even inconclusive. Creswell (2014) opines that seeing the long list of more than 12 categories of research designs is certainly overwhelming. The diversity in designs is attributed to the dynamism of research approaches and differences in dimensions upon which the conceptions are based.

For instance, most researchers note that a mixed methods research approach is determined by the research questions and the context upon which an investigation is carried out. Leech and Onwuegbuzie (2009) claim that mixed methods research is determined by three overarching dimensions, namely: timing, weighting (priority) and integration. Timing refers to the occurrence of the research approaches relative to each other. Weighting refers to the degree or level of emphasis of the approach. For instance, a research may have a stronger emphasis on quantitative data compared to the complementary qualitative data, with the resultant design being quantitative + qualitative (Cohen, Manion and Morrison, 2007). Furthermore, the dimension of integration refers to the stages of the research process when mixing is done. Therefore, not all research designs are one-size fit all. Furthermore, it should be appreciated that the different mixed methods research classifications are drawn from a multiplicity of social disciplines that include evaluation, health, nursing, psychology, sociology, library and information science, information systems, political science and education (Cohen, Manion and Morrison, 2007). Consequently, it becomes the prerogative of an individual researcher to give a comprehensive description of the mixed methods research approach that best answers one’s research questions in the specified context, hence the essence of this segment of the study.

In complimenting the above conception of research design, Durrheim (2006) further stresses that there are four overarching dimensions upon which decision making in research design is underpinned. The dimensions are the research purpose, the research paradigm, the context of the research on which the research is based, and the associated research techniques. It may be deduced that the aim of any research is to produce a coherent and valid framework for answering the research questions. According to Tashakkori and Teddlie (2003b), there are four basic mixed methods approaches, namely: the explanatory, exploratory, triangulation and embedded design. Each of the design is a continuum that has an array of own versions. For instance, concurrent or simultaneous triangulation is one of the two major types of triangulation. The other type is sequential triangulation. In sequential triangulation, the quantitative and qualitative research approaches are carried out in their entirety at different points in time during an inquiry. This study adopted the between-methods concurrent triangulation (BMCT) design in its effort to explore and understand the implementation of classroom action research (CAR) in two public teacher education colleges in Zimbabwe, and determine the associated implications to enhance a more feasible initial or pre-service teacher education and development curriculum. The design is herein explicated.

3.4.2 Between-methods concurrent triangulation design

Triangulation, in general, acknowledges that once a proposition is confirmed by two or more discrete processes or methods, the disbelief of its accuracy is certainly reduced (Johnson, Onwuegbuzie and Turner, 2007). Bogdan and Biklen, (2007) define it as the application of several research methods in studying a phenomenon. Triangulation cross-checks data from multiple sources in search for regularities in the research data. It can be deduced that research results are received with more confidence if different methods point to the same results. Furthermore, triangulation ensures that inadequacies associated with a single method are overcome. Between-methods concurrent triangulation (BMCT) design was used in this study owing to its associated merits. Guba and Lincoln (2011) define the merits of the design as enabling

researchers to be more confident of their research results; stimulation of creative ways of collecting data driven by what works; thicker and richer data are collected that are viewed from multiple lens and may lead to integration of theories. By virtue of its comprehensiveness, Denzin and Lincoln (2005b) posit that BMCT may serve as the litmus test for competing world views. Overall, BMCT increases the credibility and validity of research findings, having been derived from more than one standpoint (Cohen, Manion and Morrison, 2007; Creswell and Plano-Clark, 2007). BMCT denotes the simultaneous use of qualitative and quantitative methods in data collection within a single study, with the findings complimenting one another at the data interpretation stage. However, it should be stressed that BMCT was not confined to data collection but cut across the entire research continuum from design stage, data collection and analysis stages. The design attempted to decipher insights on implementation of CAR in Zimbabwean teacher education colleges with particular references to two homogenous teachers' colleges. The two cases or institutions were considered because of their long established tradition on CAR as the requisite component of initial professional teacher education and development curriculum. The targeted teacher educators or lecturers and final year student teachers were assumed to have the ability to answer questions that required description and interpretation of the phenomenon under investigation. In recognition of the fact that no one data source can adequately describe or interpret what is happening in any situation, it was underscored that multiple data sources were used in this study. These included semi-structured questionnaires; semi-structured interview schedules, focus group interviews, and analysis of several CAR relate documents, namely: PSA lecture time-tables and lecture schedules, PSA lecture notes for the cohort under study, PS external examiners' assessment reports and samples of pre-service teachers' CAR projects. Such a BMCT or polyangulation (Johnson, 2011; Greenwood and Levin, 2007; Stringer, 2014) procedure provided the researcher with the opportunity to discover paradoxes and contradictions that may inform how the implementation of Zimbabwean initial teacher education and development programmes may be improved, in relationship to the delivery of CAR.

3.4.3 Justification for utilisation of between-methods concurrent triangulation

Since concurrent triangulation procedures involve the simultaneous collection of both quantitative and qualitative data during an inquiry (Creswell, 2014), in this design, the researcher used his data interpretation prowess and inference skills and competence to explicate the overall research findings. The design attempted to cross-validate findings within a single study (Tashakkori and Teddlie, 2003). It involved the utilisation of multiple research instruments in a single research study, as has been outlined in the preceding segment. The practice fostered the researcher's comprehension of phenomenon as social reality is viewed from various angles. According to Stangor (2011), concurrent triangulation, in its various forms, has been widely used in social science research due to its ability to enhance research accuracy, hence its adoption by the researcher. The design uses various quantitative and qualitative procedures simultaneously to offset the flaws inherent within one procedure with the strengths in the other method. In this design, as has been noted above, both the quantitative and qualitative data collection was done concurrently, that is, during one phase of the research study. Furthermore, results thereof were integrated during the interpretation phase (Tashakkori and Teddlie, 2008). The interpretation notes the convergence of research findings so as to buttress the study's knowledge claims. Additionally, it explained any divergent knowledge claims of the study in an attempt to give credibility to the research findings.

In this inquiry, the researcher solicited quantitative data through the administration of semi-structured questionnaires on both the teacher educators and pre-service teachers. Qualitative data were solicited through interviews, focus group discussions and analysis of selected documents. Documents with information on the delivery of CAR generated both quantitative and qualitative data that were in turn interpreted concurrently in line the dictates of the between-methods concurrent triangulation design (Creswell, 2014). Furthermore, the design eased data comparison and contrast. Additionally, the BMCT procedure was less time consuming compared to the alternative sequential triangulation (Creswell, 2014). In the wake of the limited contact

time with the research informants, the design was useful because it enabled the generation of quality data, both quantitative and qualitative in a short space of time. Biases inherent in any single method were countered or ameliorated by the use of an alternative but complimentary method. The mixed methods, therefore, had the strength of cross-checking each other.

By soliciting data on insights from teacher educators and pre-service teachers on concerns with regard to the implementation of CAR, the researcher captured real feelings and perceptions on the issue in order to arrive at a more informed judgment on how the implementation of same may be improved. By making an analysis of CAR-related documents, the researcher hoped to capture data that could be missed or misrepresented through the solitary use of say the questionnaire, interviews or focus groups interface. The use of both qualitative and quantitative approaches enabled the researcher to develop a better understanding of the core players in CAR implementation in their natural settings, as is espoused by Henning (2004) cited by Maphosa (2010). This concurs with the conviction that rich and reliable data are best solicited from the participants' themselves (Creswell 2014; Tracy, 2010; Hennink, Hutter and Bailey, 2011). Meanwhile, the adoption of the BMCT as a research design was highly influenced by its successful implementation by educationists such as Muzenda (2014), Mwanza (2014) and Matveev (2002). For example, a study by Matveev (2002) on the administrative capabilities of managers made use of between-methods concurrent triangulation (BMCT) with considerable triumph. It succeeded in bringing out comparable and statistically significant views that were substantiated by verbatim quotations from the participants (Maphosa, 2010).

3.5 Population

According to Welman, Mitchel and Kruger (2005), population refers to all the cases upon which the study intends to base a scientific conclusion with respect to certain attributes. In the context of social research, population is a social community that shares one or more characteristics on which research data may be solicited (Babbie,

2010). It is a group of people who are targeted in an inquiry as prospective research informants. Research population is also called population of interest. In this study, the population of interest consisted of teacher educators and student teachers. These were targeted because they were directly involved in the implementation of CAR. The lecturers ($n = 176$) and final year student teachers ($n = 503$) were drawn from the two targeted teachers' colleges. Meanwhile, it should be noted that it was assumed that the population of interest was representative of a larger population of pre-service teachers' and lecturers' population in the country. Furthermore, it suffices to inform the reader that Zimbabwe has 11 teacher education colleges that confer primary school teachers with Diploma in Education on completion of a three-year teacher education and development programme (UZ, 2013). The Diploma in Education is offered in both Early Childhood Education and Development (ECED) and Junior Primary Education (JPE) or general course. All the 11 teachers' colleges are associate institutions of the UZ-DTE. The scheme of association is coordinated by the UZ Faculty of Education. All associate colleges are thus expected to deliver a homogenous teacher education curriculum under the 2-5-2 model (Ministries of Education, Sport and Culture and Higher and Tertiary Education, 2004; US, 2013).

Under the model, student teachers initially spend two terms at college, five terms of teaching practice and the other two terms in college residence in the final year. The system is designed to afford pre-service teachers with more time in practicum to accentuate the principle of on-the-job training. The bulk of the teachers' colleges are state-owned and only four are privately owned, mainly by church organisations. An annual student-teachers' enrolment at each of the teachers' colleges stands at a mean of, approximately, 800 students with each cohort or intake taking up an average of 250 student teachers. Each college also has a lecturer establishment of approximately 100 (Ministries of Education, Sport and Culture and Higher and Tertiary Education, 2004). It should be reiterated that this study focused on the CAR experiences made by final year preservice teachers ($n = 503$) and the associated college lecturers ($n = 176$) drawn from two state-owned primary education teachers' colleges. The teachers' colleges are herein identified as College X and College Y, in line with the dictates of

international research ethics that demand that research sites should remain anonymous in order to protect the identity of the research informants (Denzin and Lincoln, 2011). The two research institutions were conveniently chosen on the basis of their proximity to the researcher's work place. Use of the teachers' colleges was also cheaper compared to alternative randomly selected research sites, as it would mean the researcher required substantial financial resources to cover the breath and length of Zimbabwe. The use of a convenient sample is recommended by Tuckman (1988) cited by Banda (2004) who observes that purposive or convenience sampling is more ideal for all qualitative investigations or components thereof even in Mixed Methods Research, as it extends and intensifies the researcher's understanding and ensures the validity of information obtained.

Table 3. 3 Distribution of target population

Target Population				
Category	College X	College Y	DTE	Total
Student Teachers	253	250	0	503
Teacher Educators	90	86	0	176
DTE Lecturers	0	0	6	6

The researcher opted to target informants in state-owned teachers colleges because he had a long stint in similar working environment as a principal lecturer in Professional Development Studies, whose other key responsibility was to spearhead the development of CAR skills and competencies in pre-service teachers. Therefore, the researcher was quite familiar with curricular terrain in public teacher education colleges in Zimbabwe, particularly, with regard to the implementation of CAR. Additionally, taking into account the rapport the researcher had with most of the targeted teacher educators, there was likelihood of him getting the requisite assistance and co-operation from the colleagues and college principals. Easier access was thus anticipated.

3.6 Sample and sampling procedures

A sample is conceived as a sizeable number of research units or people selected from the population of interest for a particular research. It is often selected on the understanding that it would be quite cumbersome and costly for a researcher to attempt to contact all prospective informants that make up the population of interest. The entire target population is only contactable in a scenario where a census survey is the best option (Fraenkel and Wallen, 2006; Mwanza, 2014). In census survey, the entire population is enumerated, with the major impetus being that the strategy reduces the high risk of sampling error associated with all the other sampling procedures. Baruch and Holton (2004) concur with this assertion by arguing that large data sample certainly increases the statistical stamina and credibility of an inquiry.

Nonetheless, a representative sample is known to produce research results that are equally a true reflection of the widespread population, provided they accurately portray the characteristics of the target population. Therefore, this justifies the use of smarter sampling techniques in any research. According to Karavakas (2008), sampling makes research more practical and fosters the researcher to structure the research with ease. Furthermore, sampling keeps financial resources and time required of an inquiry at the lowest possible minimum, particularly in the wake of the prevalent melting economic trends characterising most developing economies such as Zimbabwe and South Africa. Sampling, therefore, saves on both funding and time.

According to Cohen, Manion and Morrison (2007), the quality of an inquiry, stands or falls not only by the appropriateness of its methodology and instrumentation but also by the suitability of the adopted sampling procedures. Sampling procedures are conceptualised as the process of selecting a few informants from the larger group (population of interest) to become the basis of estimating or predicting the prevalence of an unknown piece of information, situation or outcome regarding the larger group (Welman, Mitchel and Kruger, 2005). Methodologists and educationists, relatively, maintain that sampling procedures are best categorised into either probability or non-

probability sampling (Babbie and Mouton, 2006; Cohen, Manion and Morrison, 2007; Maree, 2007).

Probability methods, also known as representative or random sampling hinge on the principle of randomisation and probability. In contrast, non-probability sampling methods rely on mere chance. Probability sampling observes that all members of the population of interest have an equal chance of being included in a research sample, defined by particular attributes, such as, age, race, professional qualifications, work experience, sex or workplace. In non-probability sampling, prospective sample members are at the mercy of the researcher. According to Cohen, Manion and Morrison (2007), the chances of members of the population of interest being included in a sample are unknown in non-probability sampling. The following are types of non-probability sampling procedures: convenience sampling, dimensional sampling, purposive sampling, quota sampling and snowball sampling (Cohen, Manion and Morrison, 2007). In the context of this study, taking into cognisance concerns related to costs, time and practicability, it was certainly impossible for the researcher to contact all the target population (teacher educators and pre-service teachers). In line with the dictates of the mixed methods research, two sets of samples were drawn from the target population. First, a convenience sample of 32 lecturers and 38 final-year student teachers from each of the two teachers' colleges (Table 5) were selected for the purposes of data collection in this study. The sampled teacher educators were considered information rich education practitioners owing to their day-to-day experience in the delivery of CAR.

Table 3. 4 Main Research Sample Matrix

Research Instrument	Questionnaire	Interviews	Focus Group		Questionnaire	Interviews	Focus Group	
Category	College X				College Y			Total
Final-year Student Teachers	26	6	6		26	6	6	76
Teacher Educators								
Vice-Principals	1				1			2
PSA Lecturers	5				5			10
HOD's	3				3			6
LIC's	3				3			6
TP Lecturers	2				2			4
DE Lecturers	1				1			2
Other Lecturers	5	6	6		5	6	6	34
Teacher Educators' Total	32				32			64

The total lecturers' sample ($n = 64$) comprised of the colleges' vice-principals ($n = 2$), PSA lecturers ($n = 10$), HOD's ($n=6$), LIC's ($n = 6$) and lecturers drawn from the Teaching Practice ($n = 4$) and Distance Education ($n = 2$) Departments. Thirty-four ($n =34$) other lecturers were identified from the other subject areas. Two ($n=2$) lecturers from the UZ-DTE, who served as the colleges' coordinators were also interviewed. Twelve ($n =12$) of the sampled final-year student teachers ($n=76$) were interviewed and their CAR project reports analysed or reviewed as complimentary data sources. The forenamed respondents were assumed to be directly involved in the phenomenon under study. They were assumed to be CAR information-rich both as PS Syllabus C lecturers and as final year students who were about to be conferred the 'qualified teacher status'. The assumption was that the student teachers would have undergone some CAR induction that guided them through the CAR projects they carried out during their practical teaching. Furthermore, the convenience sampling was drawn from the belief that the respondents were willing to objectively and willingly share their experiences. Since this research was based on the mixed methods research

paradigm, respondents to qualitative instruments were purposively and conveniently selected. A convenient sample was chosen as it was cheaper compared to alternative randomly selected samples. Borg, Gall and Gall (2006) recommend the use of a convenient sample and they also observe that purposive or convenience sampling is more ideal for virtually all investigations that seek to tap on mixed research data, compared to random sampling, as it extends and intensifies the researcher's understanding and ensures the credibility of information obtained. According to Teddlie and Yu (2007), sampling in mixed methods research involves the selection of units or cases for a research using both probability sampling and purposive sampling strategies. This increases the research findings' validity and transferability, respectively.

3.6.1 Sampling of educators

As has been noted, thirty-two teacher educators per college participated in the study. The total teacher educators ($n = 64$) were purposively selected using staff-establishment records for key CAR departments for each teachers' college. In this sampling procedure teacher educators were purposively selected by the researcher on the basis of their positions in the running of PSA and PSC components. Meanwhile, it should be noted that the sample for teacher educators was not stratified on the basis of gender. Krathwhol (1993) cited in Banda (2004) advises that this can only be done in instances where gender would have a bearing on research findings. In the context of this research, there was no possibility of ever correlating the lecturers' efficacy in CAR implementation to gender. Nonetheless, a deliberate attempt was made to use an equal number of pre-service teacher informants, on the basis of sex, in line with the observation made in literature (Brown, 2002) that there seem to be some significant disparity on the attitudes, efficacy and perceptions of teachers towards CAR and teaching in general, whose basis may be drawn on sex disparities. Nonetheless, literature hastens to caution that the 'gender based' disparities are certainly not conclusive.

3.6.2 Sampling of final-year student teachers

To generate data from student teachers, the sample thereof was randomly done. Two strata were produced for the final-year student teachers based on gender composition. The stratified random sampling was done in an attempt to increase the generalisability of the research findings. The research targeted thirty-eight ($n=38$) final-year student teachers per each of the two teachers' colleges. The students were randomly selected from the provided cohort's class register. A deliberate attempt was made to have gender balance on the selected student teachers in line with the nation's policy on the need to exercise gender sensitivity in all curricular activities. Excluded in the sample were all non-final year student teachers. Such pre-service teachers were considered to be too green or unripe to serve as reputable CAR data sources. Meanwhile, a purposive sample total of 64 (36%) teacher educators and 76 (15%) final-year pre-service teachers were quite credible and representative enough. The sample size resonated with recommendation given by most methodologists who note that the minimum sample size of 10% is recommended for behavioural science investigations (Borg, Gall and Gall, 2006; Sax, Nisbet and Entwistle, 1970, cited by Banda, 2004).

3.7 Research instruments

This section gives a detailed description of the data collection instruments used in this study. An attempt is made to delineate the justification for the selection of each particular instrument, its overall construction process and administration. Meanwhile, it should be appreciated that there are several research instruments that one may employ to solicit requisite research data. Choice of such instruments is often made on justifiable grounds in line with the instruments' appropriateness, usefulness and effectiveness in data collection. In tandem with mixed methods research approaches adopted for the study, four research instruments were used during the field investigation, namely: questionnaires, semi-structured interview schedules, focus group interviews and documents.

3.7.1 Questionnaires

Questionnaires are a popular research tool in educational research. They are perceived to be more accurate in data gathering compared to reliance on the researcher's observation skills that may be highly tainted by the researcher's preconceived perceptions and values. According to Kothari (2004), a questionnaire is a set of pre-formulated questions that are availed to a sample of respondents representative of a defined population of interest. It is suitable for collecting information about how people do what they do and their perception hitherto (Kelley, 2006). Questionnaires are regarded by many as the research instrument of first choice as they foster access to a larger research population and sample leading to soliciting patterns amongst the sample. They can be used to collect both quantitative and qualitative data (Maree, 2007). Questionnaires may be distributed through electronic mail, post or an internet link. They may be administered through self-administration, post, face-to-face interview, telephone conversation, Skype or Facebook chat, depending on the length of the questionnaire. According to Maree (2007), postal questionnaires dominated educational research in the last couple of decades; however, their popularity seems to be losing ground owing to technological advancement at the turn of the century.

In the past, postal questionnaires were mailed to research informants to scrutinise and answer questions during their spare time. It was believed that such practice would give respondents ample time to respond accurately and objectively. Thereafter, the duly completed questionnaire would be returned to the researcher through a stamped and self-addressed envelope. Nonetheless, postal questionnaires were known to have low return rate. Situations were encountered where the researcher had to make frequent follow-ups on the non-returns and the exercise was quite expensive in the long run. Besides, there was no assurance that the distributed questionnaire was answered by the targeted informant. One might have decided to use a proxy. In view of the noted inadequacies, semi-structured and self-administered questionnaires were used in this inquiry (Appendices I and J). A semi-structured questionnaire is made up of a mixture

of closed and open-ended questions (Cohen, Manion and Morrison, 2007; Creswell and Plano-Clark, 2007). Semi-structured questionnaires were chosen on the basis that they enable the researcher to access the requisite research sample's CAR attitudes and perceptions with ease. Open-ended questions enabled the soliciting of data related to the respondents' personal opinions with regard to the implementation of CAR in the selected teacher education colleges. Respondents were offered the opportunity to say what they think without being directed by the researcher's salient opinions or interference as is the case with some structured interviews (Babbie, 2010).

The use of closed questions, guided mainly by the 5-point Likert Scale eased data collation and subsequent interpretation. Overall, semi-structured questionnaires concurrently solicited both quantitative and qualitative data, thus proved to be economic on both financial resources and time. The questionnaires were self-administered to both the teacher-educators and student teachers. These were distributed to the respondents and after waiting for an hour and half, the researcher retrieved the instruments. Maree (2007) supports such an administration by commending that it ensures that respondents complete the questionnaire in time. No low return rate is thus expected. Furthermore, it was unlikely that a respondent may use a proxy to answer questions on one's behalf. Caution is also made that collected data were not distorted due to collaborative responses among the respondents (Dornye, 2003, in Maphosa, 2010). The questionnaires were self-administered, with the researcher picking up responses on the same day to avoid a situation whereby respondents cross-pollinate on the issues in question. Respondents were encouraged to work individually such that they might not influence other respondents' answers or vice versa. The fact that the respondents remained anonymous also gave them the liberty to vent out their truthful responses without fear of victimisation. Honest sentiments with regard to the CAR concerns at stake were expected to be expressed.

Self-administered questionnaires, according to Bowling and Ebrahim (2005) are a traditional paper and pen method of data collection that involves handing paper questionnaires to respondents in person and asking them to complete them by hand

and return them to the researcher. A self-administered questionnaire is a form of self-reports made by respondents in a particular subject. In this study, the researcher employed self-administered questionnaires on four-prong justification. First, the population of interest was highly literate such that they could complete the questionnaires without assistance. Second, the sample size (64 teacher-educators and 76 student teachers) was certainly too large for face-to-face interviews. Third, the tool fostered quick data collection within the specified timeline. Last, the mode lacked intrusiveness as respondents maintained anonymity and answered all questions individually or independently (Cook and Cook, 2008). The researcher would have opted to administer the questionnaires through email but established that most of the respondents had limited access to internet connectivity. In the case of a few student teachers, they confirmed low levels of computer literacy, particularly, internet use.

Taking into account empirical evidence, a study by Banda (2004) on evaluation of the efficacy of primary school heads in the management of educational finance in selected circuit schools in Zimbabwe used a questionnaire as the main data collection instrument. The questionnaire successfully managed to gather the requisite data quickly and at a low cost. Additionally, the research findings were quite an eye opener. Suggested solutions were readily taken up by the responsible authority. The utility of the questionnaire as the instrument of first choice is confirmed by several teacher educators and scholars (Brown, 2002; Flornes, 2007; Maphosa, 2010; Muzenda, 2014; Mwanza, 2014, Segal, 2009). For instance, Maphosa (2010) designed questionnaires to collect perceptions on effects and effectiveness of punishment disciplinary measures from educators and learners. Brown (2002: i) "... investigated teachers' perceptions of the influence of action research on their thinking about instructional practices and the impact of this thinking on teaching practices." Collected data envisaged that teachers perceived changes in the four areas of concern, namely: overall teacher role, teachers' knowledge with regard to teaching, teaching practices and reflective practices. Furthermore, Mwanza (2014) used survey questionnaires to interrogate quality assurance in initial primary teacher mentorship in Malawi under the 1+1 model. The study successfully revealed several mentorship shortcomings that

impacted negatively on the quality of the teacher product in Malawi and recommended several intervention strategies. It is in line with this realisation of the usefulness, convenience and efficacy of the questionnaire in previous studies that the researcher chose, on justifiable grounds, the use of the questionnaires in this present study.

3.7.1.1 Demerits associated with the use of questionnaires

In spite of the several merits associated with the use of questionnaires as significant data collection tools, it should be noted that the instrument, as is the case with virtually all research instruments, is associated with notable flaws too. For instance, questionnaires are alleged to often lack validity if not carefully administered. In some cases, respondents may read the general mood of the research purpose and the researcher such that they provide answers that point to the researcher's preconceived attitudes or expectations. Some respondents may simply decide to lie (Muzenda, 2014); in line with what they know are the expected CAR deliverables in initial teacher education and development. In instances where questionnaires are not intelligently worded, questions may be misconstrued, thus subjected to diverse interpretations by different respondents. In that view, research results may lack the requisite validity. Dillman (2000) argues that questionnaires are prone to sampling errors, non-response errors and measurement errors. Researchers are thus exhorted to militate against such inadequacies as early as the instruments design stage. To ameliorate the aforementioned demerits, the researcher opted for the use of multiple research instruments, in sync with the espoused concurrent triangulation research design.

3.7.1.2 The questionnaire design and development

As has been referred to above, both the questionnaires were composed of open-ended and closed questions, in an attempt to collect perceptions, attitudes and sentiments from lecturers and student teachers with regard to CAR deliverables. The questionnaires had two major categories, namely: Section 'A', focusing on soliciting respondents' biographic data. This was on the basis that every research has to

delineate in detail the characteristics of its units of analysis for the basis of replicability (Babbie, 2010; Cohen, Manion and Morrison, 2007; Gray, 2005). Such characteristics were also required to determine variables that might influence differences in CAR experiences. Section B, focused on CAR implementation. The later section was further sub-divided in line with the dictates of the following sub-research questions or sub-themes of the study:

- a. College lecturers' capacity to develop in pre-service teachers skills and competencies required of an eventual teacher researcher;
- b. CAR strategies that were predominant in teacher education colleges under investigation;
- c. Support systems and resources that were available in teacher education colleges to foster the delivery of quality CAR, and
- d. Tentative solutions in the implementation of CAR in teacher education colleges in an effort to develop a more feasible initial teacher education and development curriculum.

All the questionnaire items were carefully selected to ensure their relevance in relationship to the sub-research questions. A deliberate attempt was made to link the data gathering tools with the research questions, to avoid a scenario where data collected may be of no consequence in finding solution to the research problem. This is espoused by Maphosa (2010) who asserts that an absence of such a link renders the research findings invalid. In that view, a matrix grid was made that juxtaposed question items with the respective sub-research questions. Most of the questionnaire items were adopted from the reviewed literature (Table 3.5) and others derived from the researcher's experiential knowledge and professional interface with colleague lecturers in relationship to the implementation of CAR.

Table 3. 5 Questionnaire themes culled from reviewed literature

Author	Example of Questionnaire Theme
Hattingh, Aldous and Rogan, 2007; Harden and Crosby, 2000	Lecturer capacity in CAR implementation
Burns, 2010; Hattingh, Aldous and Rogan, 2007; Hine and Lavery, 2014; Jenny and Snyder, 2007; McNiff, 2010	CAR learner benefits or effects of CAR on student teachers
Burns, 2010; Hine and Lavery, 2014; Jenny and Snyder, 2007; McNiff, 2010	Common forms of the CAR process
Hine and Lavery, 2014	CAR strategies in teachers' colleges
Burns, 2010; McNiff, 2010	Effective CAR implementation
Burns, 2010; Hine and Lavery, 2014; McNiff, 2010; Ellis, Armstrong and Groundwater-Smith, 2010	CAR impediments
Flornes, 2007; Hine and Lavery, 2014; McNiff, 2010	Tentative solutions to CAR implementation
Hine and Lavery, 2014;	Assessment of student teachers' small-scale (CDS) research projects

Some questions were adopted from existing curricular questionnaires aimed at responding to the study's research questions. Furthermore, the questionnaires, as is the case with all research instruments in this study, underwent rigorous scrutiny by the researcher's supervisor, Professor Symporosa Rembe, and an expert in CAR from the University of Zimbabwe – Department of Teacher Education (UZ-DTE). Additionally, prior to their administration, the research questionnaires for both teacher educators and student teachers were first pilot tested to ensure that they measure what they intend to measure. Conveniently selected colleague lecturers and pre-service teachers were used to check on the content validity of the questionnaires and their language accuracy so as to eliminate any form of ambiguity. It was also the purpose of the pilot

testing to gauge the time taken by respondents to answer the questionnaire.

3.7.2 Semi-structured Interviews

Semi-structured interviews (Appendices K and L) were used to solicit respondents' opinions and explanations on their experiences in CAR as they allowed respondents to express themselves at some length (Sarantakos, 2013). Meanwhile, interviews are defined as face-to-face verbal exchanges between one or two people for the purpose of obtaining information relevant to a research (Rowley, 2012). The conversation is often initiated by the interviewer with the interviewee responding. It is the essence of an interview to collect data that is rich in description. In semi-structured interviews, respondents are asked a set of similar questions. In order to ensure more accurate data capture, the interviews in this study were audio recorded, with permission from individual participants, supported by in-situ field notes and subsequent data transcription. The researcher found it prudent to audio record interview proceedings because records thereof have some permanency if well stored. Borg, Gall and Gall (2006) note that audio-taping reduces the tendency by interviewers to select data in sync with their biases. It also provides an authentic verbal record that may be studied more thoroughly in subsequent plays compared to data in field notes. The interview process is often speeded up as there won't be need for extensive note-taking.

The following informants (n =6) were interviewed from each of the two teachers' colleges: vice-principal (n = 1), PSA lecturers (n = 2), PS LIC (n = 1) and LIC's drawn from the Teaching Practice (n = 1) and Distance Education (n = 1) Departments. Two (n =2) lecturers from the UZ-DTE were also interviewed. Six (n = 6) final-year student teachers drawn from each of the two teachers' college were also interviewed. These were purposively selected as rich sources of data for the study. Focus was made on the respondents' CAR experiences, successes, available support systems, problems being encountered together with tentative solutions. The small number of interviewees was adopted for management purposes. Furthermore, interviews were a supplementary data collection tool in this inquiry. They were conducted to comprehend

the story behind data collected say through questionnaires and analysis of documents. Interviews were employed to cross-validate the data from other sources (Mwanza, 2014). A conducive interview environment was first created such that the interviewees would freely describe and analyse their CAR experiences without any coercion. The solicited descriptive data captured in verbatim, enhanced the researcher's in-depth understanding of the issues of concern pertaining to CAR implementation. This concurred with the general conviction by methodologists that interviews empower research participants (Natsa, 1994 in Banda, 2004).

Semi-structured interviews were considered an appropriate tool of inquiry as they promote greater insight into any given subject. Borg, Gall and Gall (2006) commend semi-structured interviews because the interviewer, through careful motivation of the interviewee and maintenance of some rapport, can obtain information that the interviewee cannot reveal under normal circumstances. Furthermore both the researcher and the interviewee can ask further questions as probes. A question can also be reworded to make sure that both parties are addressing the same issues. Semi-structured interviews as a research method were compatible with social interpretive perspective in that the researcher and the interviewee were free to express their own perspectives about the issue before them.

Consequently, it should be stressed that semi-structured interviews provided both the researcher and the interviewee with the opportunity to further explain, rephrase and emphasise their points of view. This led to an appreciation of each other's position and the development of shared understanding. It should be noted that although the questionnaire can be used to reach a wide audience cheaply and quickly, the researcher proposed the use of semi-structured interviews as a complimentary data gathering tool because in using questionnaires, in most cases, respondents are not given the opportunity to qualify, expand or modify responses to most closed questions. Questionnaires also have the inadequacy of being susceptible to false responses and are linked to have low return rate. Interviews have the plus of getting responses there and then. In this study, semi-structured interview schedules were designed by the

researcher, focusing on CAR concerns under investigation. The researcher's purpose of using semi-structured interviews was based on the intention to explore participants' experiences, views, ideas, beliefs and attitudes concerning the phenomenon under study through the eyes of the participants (Maree, 2007). The interview questions were presented in three categories. 'Section A' focused on soliciting personal information on the respondents. As is the justification in soliciting bio data for respondents in questionnaires, bio data were solicited on the ground that every research has to delineate in detail the characteristics of its units of analysis for the basis of replicability and generalisability (Babbie, 2010; Cohen, Manion and Morrison, 2007; Gray, 2004). Such characteristics were also required to determine variables that might influence differences in CAR experiences. Section B and C interview questions fed onto the main sub-research questions.

3.7.2.1 Interview shortcomings

Meanwhile, it should be noted that interviews as data gathering tools, also have flaws. Information obtained depends on the interviewee's willingness to open up. In some instances, the interviewee may simply decide not to divulge certain information in spite of relentless probing, persuasion or assurance of non-victimisation. Where audio-recording is requested, participants may express discomfort. According to Chinhara (2015), participants may even withdraw their cooperation when they realise that a more permanent audio-taping of their conversation is done. They remain skeptical on how the recordings may be used or abused. In that view, it was required to first create sound rapport between the researcher and the interviewee (Appendices K and L). During interviews, the researcher deliberately attempted to create an open and relaxed atmosphere. Emphasis was also made on research confidentiality and interviewee anonymity. The mere presence of the interviewer may impose on an interviewee a certain bias and as a result data may be laced with lies (Rowley, 2012). In some instances, the lying results from the fact that interviewee may not have the required information.

In situations where the researcher's stance on the issue under probe is known by the participants, the respondents may give answers that accede to the researcher's perspective. As a mitigation strategy, it would be prudent that the researcher clearly explains to the interviewee the purpose of the research and runs down through the interview questions or topics to be pondered prior to embarking on the interview in full throttle. Bias was reduced by avoiding suggestive gestures such as nodding, interjection of the conversation with remarks such as 'yes', 'a-a-h' or 'no'. Interviews may also be daunting (Kelly, 2006); thus, it is advisable to keep them concise. Kelly (2006) exhorts that an interview should not last more than one and half hours lest the respondent's concentration span reaches a point of diminishing returns. On that advice, pilot testing of the interview schedules was done to check on the practicality of the instrument in capturing the requisite data and the tentative timeframe. Noted shortcomings were rectified before the full scale implementation thereof.

3.7.2.2 Designing semi-structured interview schedules

Semi-structured interview schedules were used in this study. These research tools are best described as in-between structured interview schedules that are used by an interviewer to solicit research data from an interviewee. More often than not, the interviewer asks questions as they were formulated but sprinkled with frequent probes. The questions could require typical yes or no responses that are further elaborated or illustrated. In the case of open-ended questions, respondents were allowed to express own opinion freely in the context of the problem under probe. For example, some of the questions posed were: How would you describe your action research experiences during your teacher training? What problems did you encounter in carrying out your CDS project? How best do you think the encountered problems may be solved? Such questions were meant to come to terms with the respondents' lived understanding and experiences in the context of CAR delivery or implementation. In view of the foresaid, one is justifiable to say the major objective of the semi-structured interview schedules was to provide interviewees with the opportunity to articulate their CAR practices and opinions related hitherto. Interview schedules were designed by the researcher,

focusing on the major CAR implementation issues under investigation.

The adoption of the use of semi-structured interviews was based on the need to ease or have orderly data collection since more or less the same questions were asked to the respondents in a more open-ended format rather than the use of structured interview questions. Such questions would benefit the eliciting of mere quantitative data that may not mean much if interpreted independent of the valuable qualitative data. Data collected through semi-structured interviews is also easier to analyse compared to that collected through say an unstructured conversation. In such a scenario, the results may be a pile of interview notes that may not be of relevance to the question under probe or the focus the researcher needs. Additionally, data may simply be a repetition of the same points over and over without adding much value. Therefore, to ensure that the interviews remained focused and only relevant questions asked, in an attempt to find answers to the outlined sub-research questions, semi-structured interview guides were designed. Most interview questions were derived from the reviewed literature and data collected through document analysis and questionnaires.

3.7.3 Focus group discussions

Focus groups, made up of both teacher educators ($n = 6$ per teachers' college) and student teachers ($n = 6$ per teachers' college), were utilised in data gathering. Focus groups are a form of group interviews whose main focus is on soliciting data from the interaction of group participants, usually 6 – 12, for the purpose of establishment of a common view on a particular topic (Cohen, Manion and Morrison, 2007). According to Bryman (2006), focus groups are research interviews conducted with more than one person on a specific topic or issue at a particular place and time. Patton (2009) cited by Chikwa (2012), underlines the fact that the focus group interview is, indeed, an interview and not a discussion. It is not a problem solving-session of any sort or a decision making group but an interview. Literature has several terms used interchangeably for focus group, such as, focused interviews and group interviews (Bryman, 2006; Rubin and Babbie, 2016). Focus group, therefore, is an interview with

more than one rich informant on a defined theme or topic facilitated by the researcher. It is an interview during which meaning is co-constructed by the informants. It is important to emphasise that in focus group interviews, the researcher is interested in understanding the views held by the groups and not the individual-level information.

The use of focus group interview schedules (Appendices N and O) was chosen on the strengths that the strategy tends to envisage insights that are often not available on one-on-one interviews. Focus groups are also economical on both time and money. They are known to produce valuable research data in no time. Robson (2002) opines that focus groups have the following merits: they develop themes, topics and schedules that may be used in subsequent research interviews on a topic; generate data quickly at a low cost compared to one-on-one interviews or use of questionnaires; appropriate for the generation of data on attitudes, values and opinions of different sub-groups of a population; and encourage groups to voice own opinions on an issue.

Overall, focus groups help in 'polyangulation' with the traditional forms of data collection, such as, one-on-one interviewing, use of a survey questionnaire, observation and document analysis (Bogdan and Biklen, 2007; Cohen, Manion and Morrison, 2007). During focus group interviews, the researcher ensured that each participant was given an opportunity to be heard to avoid the dominance by self-appointed experts or dominators. By making informants of like stature conference at the same time from one place, group interviews, according to Mwanza (2014), reduce the impact of interfering with the informants' day-to-day responsibilities, compared to the one-on-one interviews.

Meanwhile, it should be underscored that this study adapted the nominal technique for conducting focus group interviews, among the several other techniques such as brainstorming and citizens juries. The nominal technique requires that members of the focus group respond to a question one at a time after being nominated by the researcher (Mwanza, 2014). The set-up enabled group members to hear each other's responses to posed questions. Nominated members were asked to explain themselves

fully without unnecessary interruption by the other group members. It is thus deduced that the nominal technique has the advantage of promoting orderly conferencing by the focus group. Disorderly interjections were certainly eliminated with the facilitator finding more intelligent ways of cutting off talkative or digressing group members. The technique's further plus was on ensuring quality participation by all group members. It also fostered focused conferencing that eased data transcription and its analysis.

3.7.3.1 Development and administration of focus group interview schedules

In developing focus group 'interview schedules', the researcher tailored questions to certain CAR attributes expected of the participants (Dillman, 2000). For instance, teacher educators were asked questions related to their roles and experiences in the delivery of CAR. Student teachers' focus group interviews focused on their CAR experiences and impact thereof in assessing the lecturer capacity in the delivery of CAR. Focus was also made on establishing how they thought they benefitted from the CAR exposure. Separate focus group interview schedules for teacher educators and student teachers were therefore developed informed mainly by the reviewed literature on CAR implementation in teachers' colleges, coupled with data from questionnaires, interviews and analysed documents such as PSA lecture schedules and sample CAR projects. Appendices N and O, depict the interview schedules that were used for the group interviews with teacher educators and student teachers, respectively. The role of the researcher was to simply ask predetermined set of inventory questions with probes and prompts where necessary. The researcher, however, had to be flexible in restructuring the order of questions and followed up on topics as they were spontaneously raised by the participants. To minimise measurement error and facilitate easier data interpretation, the questions' inventory were asked in the same order of sequence to both groups. The draft focus group interview schedules were pretested prior to full throttle administration on both teacher educators and student teachers. Six student teacher volunteers on teaching practice were interviewed as a group on their visit to college on induction on how to work on their distance education assignments.

The researcher opted to make use of student teachers on teaching practice on assumption that they would have undergone some action research tuition in preparation of embarking on CDS research projects. Five colleague lecturers were group interviewed on one hand. The colleagues were chosen on the basis of having primary teacher education and development experience of more than 10 years. They were considered rich CAR informants. The pretesting focused mainly on the duration of the group interview, suitability of the contents thereof and language used. Thereafter, the focus group schedules were reviewed accordingly, coupled with recommendations from the researcher's supervisor. The adopted strategy followed advice by research authorities that interview questions and related procedures should always be pilot tested if they are to solicit the intended data (Creswell, 2014).

In administering the focus groups, the researcher started off by introducing himself to the participants. He took this opportunity to spell out the object of the research. Associated focus group ground rules were simultaneously outlined to ensure that the conferencing was done orderly, according all participants the professional respect they deserved. Permission was sought and granted to audio-tape the group interviews using a Livescribe 3 smart pen. This enabled the researcher to focus on questioning and observing other forms of communication such as body language. The researcher's role was mainly to facilitate discussions, time member participation, keep communication in check and record data (Muzenda, 2014). Discussions were based on the predetermined focus group questions with related probes to elicit the required information. The interview recordings were subsequently transcribed, ensuring anonymity of participants through use of chosen pseudonyms or data codes.

3.7.3.2 Impediments related to focus group interviews

Maree (2007) warns that data gathered through focus group interviews still need to be treated with caution. This was based on the argument that the data may be biased through group domineering by outspoken individuals. In this study, domineering was

cited as one of the ground rules, with every member of the focus group encouraged to contribute. It was stressed on participants that all contributions should be regarded as valuable. No contribution was treated as more equal than others as they were no wrong or right answers during the discussion. Questions were deliberately directed to seemingly passive participants for elucidation. According to Muzenda (2014), this was done with much tact to ensure that no one derived an offence. In some instances, bringing a couple of participants together at a particular place and time is known to be quite a challenge. To avoid the inadequacy, the researcher liaised with the participants and their HODs well on time on their availability.

Additionally, participants were reminded of the scheduled focus group meeting a day before through mobile text messages and reminders were sent through too on the day of the interview at the start of their working day. Since the quality of a group discussion hinges on the facilitator's moderation prowess to maintain focus, the researcher deliberately avoided swaying discussions through say over moderation. He made an attempt to be a good listener such that the voice and perceptions of the participants prevailed. In situations where group participants were a mixture of college executives and subordinates, for instance, vice-principals, HODs, LICs, principal lecturers and novice lecturers, it was suspected that views or ideas individuals might be influenced by the presence of the significant others (Cohen, Manion and Morrison, 2007). Some participants could simply be reluctant to state their views in public for fear of victimisation. In some instances, organisational relationship might be strained. There might be frictions among group members related to power or professional identity and this would fracture discussions. Barbour and Barbour (2008) thus warns that a researcher has to remain tact to avoid a situation whereby the flow of a discussion is diverted by organisational power struggles, resulting in having irrelevant research data. This meant that the researcher had to firmly spell out the ground rules and be prepared to diplomatically rule a contribution out of order to keep the discussion focused in a collegial atmosphere. According to Muzenda (2014), it should be the focus of any group interview to afford each participant an equal opportunity to air their views on the issue under discussion without any cohesion.

3.7.4 Documents

Documents are important sources of research data. Important information pertaining to organisations, human resources, assets and systems of operation or programmes are stored in documents. In that view, documents are significant research data sources on equal footing with the traditional research informants or interviewees. Documents are credible sources of research evidence, hence their popular usage by authors (Banda, 2004; Brown, 2002; Chinhara, 2015; Maphosa, 2010; Muzenda, 2014; Mwanza, 2014; Prior, 2008 and Shumba, 2011). Documents are regarded as vital resources for institutional memory since their content has permanency and is not easy to temper with. Doctored information can be easily detected owing to the availability of several supporting documents. Hidden meanings may also be bumped into through analysis of documents (Creswell, 2014). In this study, documents were analysed to expand, triangulate and explain data collected through the other procedures such as the questionnaires and interviews (one-on-one and focus group). This was because sometimes what people say may be different from what they do. In that view, document analysis was done first in this study, prior to the administration of the other mixed methods research instruments as is espoused Merriam (2002) who notes that starting off an inquiry with document analysis provides a better understanding of phenomenon as well as other puzzles that would warrant further exploration by other research instruments.

The following documents and artifacts associated with the cohorts in question were reviewed: Distance Education (DE) and PSA timetables and planning schemes (lecture schedules), DE and PSA lecture notes on research, PS external examiners' reports, and sample CAR project reports produced by student teachers, CAR assessment outcomes or mark schedules. An analysis was made of the UZ-DTE chief examiners' reports and those submitted to the UZ-DTE Board of Studies in the preceding five years. Requisite CAR lecture schedules were checked on their availability, coverage of the requisite CAR curricula and implementation (Appendix M).

Samples of CAR projects conducted by students were scrutinised to assess the extent to which teacher educators were conversant with basic action research report writing dictates (Appendix Q). Teacher operational knowledge of CAR was also assessed. The inspection of the CDS or CAR project reports also served to ascertain whether accurate and truthful reporting and assessment was done by the student teachers and teacher educators, respectively.

The foresaid documents were purposively selected based on Scott (1990) in Kelly (2006) four criteria for documents quality, namely: authenticity (genuineness and unquestionable source); credibility (free from errors and distortion); representativeness (typical of a kind); and meaning (clear and comprehensible evidence). Since it is impossible to inspect everything there is to look at in any study (Cohen, Manion and Morrison, 2007), attention in document analysis was made to the major CAR aspects. As has been previously pointed out, document analysis as a data gathering strategy was adopted on the strengths that documents are useful in corroborating and augmenting evidence from other sources (Cohen, Manion and Morrison, 2007; Marree, 2007). Documents can also offer leads to further inquiry, for example, retrospective interviews, especially where documentary evidence was contradictory. Furthermore, documents have the advantage of permanency. Information is made readily available long after its authorship. In the case of initial professional education and development of teachers, the CAR accountability concerns could only be addressed if CAR lecture notes and sample CAR projects were made accessible. Meanwhile, it should be stressed that documents, in general, were studied to learn about the people who produced them and the related programme.

In this study, the researcher adapted Altheide's (2004) framework for analysing documents as cited by Mwanza (2014). The framework recommends the following procedures:

- a) Familiarisation with the context in which the documents were produced;
- b) Skimming through at least six different documents to become familiar with the contents thereof;

- c) Generating themes and categories from literature on norms and standards of CAR implementation;
- d) Design of the document analysis checklists in terms of generated themes and categories;
- e) Submission of the draft checklists to the researcher's supervisor for expert advice on how to improve on their accuracy;
- f) Pilot testing the checklists on at least three documents;
- g) Overhaul review of the checklist; and
- h) Final administration of the checklists on the sampled documents.

Meanwhile, it should be noted that both qualitative and quantitative data were deciphered from the documents, focusing on CAR policies, planned activities, emerging issues and implemented activities. The findings from the documents were then integrated with other findings from the entire study during data interpretation.

3.8 The research procedure

The steps outlined below were taken to conduct the research.

3.8.1 Authority to carry out the research-study

First, permission was sought and granted by the University of Fort Hare's Research Ethics Committee (UREC), following the project proposal's presentation and subsequent acceptance by the university's Higher Degrees Committee. In confirmation of the foresaid, an ethical clearance certificate REC-270710-028-RA Level 1, whose reference number is REM 241SBAN01 was issued out to the researcher by the UREC (See Appendix A). Additionally, the researcher's supervisor, Professor Symporosa Rembe, availed an introductory letter granting the researcher permission to collect data. The researcher then used the introductory note together with the ethical clearance to seek permission from the Permanent Secretary in the Zimbabwean Ministry of Tertiary Education, Science and Technology Development to have access

into the targeted tertiary institutions (Appendices B, C, D and E). Upon being granted permission to access the teachers' colleges by the parent ministry, the researcher further sought permission to interface with the targeted teacher educators and pre-service teachers. Permission was sought and granted by the respective college principals and their subordinate lieutenants, that is, HODs and LICs who served as contact persons.

At the research sites, the researcher further liaised with the subordinate lieutenants to access the targeted research informants. The foresaid letters of authority to conduct research outlined the research purpose, methods, participants, benefits of the research and stated the tentative research duration (Burns, 2010). After permission was granted to access the research informants by both the Permanent Secretary in the Ministry of Higher and Tertiary Education, and Technology Development and the respective principals, the researcher and the 'gatekeepers' agreed on when to administer the various research instruments, at a time most convenient to both the teacher educators, student teachers and the smooth operation of the teachers' colleges. On arrival at the research institutions, the principals and their deputies facilitated meetings with the prospective participants.

3.8.2 Pilot study

Prior to the main field investigation, a pilot study was undertaken, aimed at ascertaining the validity and reliability of the research instruments. The pilot study gave the researcher the opportunity to rephrase the interview questions and question items in questionnaires and all the other research instruments (Clark and Creswell, 2014). Burns (2010:78) exhorts that it is valuable to try out questions that make up research instruments with even a colleague to make sure they are easily understood and work well in soliciting the information the researcher is looking for. The piloting was grounded on the need for the researcher to ensure that the questions or checklist items correlated with what the study intended to measure (Burns, 2010; Cohen, Manion and Morrison, 2007). Effort was made to ascertain that major CAR delivery

aspects were solicited by the document analysis schedules or checklists. Pilot testing justification was further derived from the need to establish the uniformity or consistency in understanding the research questions by the respective respondents. Six lecturers and six final year student teachers conveniently sampled from a teachers' college that was not part of the targeted research population were used during the instruments' pilot testing. This was in line with Johnson and Christensen's (2012) advice that the rule of thumb in research is that research instruments, particularly the questionnaire, must be tried out with between five to ten prospective research informants.

Oppenheim (1992), cited by Cohen, Manion and Morrison (2007) remarks that virtually everything about research instruments should be pilot tested, without excluding anything. For instance, in the case of questionnaires, it was advisable that even the preamble or type face to the quality of the paper had to be piloted. The pilot study was done soon after getting permission to access colleges from the line ministry, coupled with the supervisor's authorisation that the instruments were ready for field trial. Several visits were made to the identified institution by prior arrangement with the college principal and delegated gatekeeper. The participating lecturers and student teachers were also asked for additional questions or aspects to enrich the instruments. They were asked to give their overall evaluation of the research instruments and provisions thereof. After making the necessary amendments on the research instruments and their administration strategies, the main field investigation was carried out.

3.8.3 Main study overview

After the pilot study, the researcher visited the two teachers' colleges identified for the main study to seek the gatekeepers' consent to participate in the study (Appendices F and G). The researcher explained the purpose of the study. He stressed that the investigation was an essential component of the researcher's post-graduate studies and that the information obtained may be of significance, in some way, in improving

the line ministry's CAR implementation strategies in initial teacher education and development. After getting the principals' consent, tentative dates were set for the administration of the various research instruments. The researcher stressed that the information obtained from each of the research informants was to be treated with the confidentiality it deserved. Research data were to be consequently destroyed soon after use, with the approval of the research supervisor. To avoid victimisation of individual lecturers and student teachers, in cases where negative information was reported, data were presented in summation. The research instruments were administered during the period 15 June to 30 September 2016. The interview sessions, both one-on-one and focus group discussions, and document analysis sessions, each lasted between 30 to 60 minutes. Each instrument was administered on a separate visit to a particular teachers' college to enable the smooth running of the colleges' core mandate areas.

Meanwhile, it should be noted that in interfacing with the research respondents, the researcher first tried to put the interviewees at ease by talking about general issues such as weather, teaching, teacher education and personal identification. In introducing himself, the researcher re-stated the main purpose of the investigation and reassured the respondent that information obtained would be used for the purpose of this research only. He stressed on the need to protect the confidentiality of respondents and research sites. The researcher explained how the investigation was to be conducted. To capture clearly the verbal interaction between the researcher and the interviewees, field notes were captured promptly and also audio-taped. The notes included a detailed description of the respondents' responses and the researcher's evaluation of the interviewee's comprehension of issues at stake. Each time an instrument was administered, the respondents were thanked for the time spared and the valuable information provided. Some honorarium parker-pens and Grade Seven English Language passbooks (authored by the researcher) were issued out to the respondents. The passbooks were given to student interviewees only due to cost limitations.

3.9 Data processing and analysis

Both quantitative and qualitative data were collected in this study. On face value, the data appeared so raw and muddled that it made little sense to a novice researcher. As a result, the data had to be processed first, that is, prepared for analysis (Burns, 2010). According to Kothari (2004), data processing implies editing, coding, classification and tabulation of research data. Data analysis on one hand denotes the process of inspecting, cleaning, converting and modelling data. It is the process of re-organising and trimming research data for it to be understood. It was thus the major aim of data analysis to give meaning to collected research data in its diversity. In the context of this study, the data highlighted valuable information with regard to teacher educators' and student teachers' CAR perceptions in relationship to say the role of the lecturers, their general behaviour or research skills. Collected data started off by being edited to detect and correct errors and omissions. According to Muzenda (2014), data editing ensures that the researcher checks the raw data for accuracy and sees if it would have been correctly captured into a computer for coding and tabulation, particularly where quantitative data were depicted in frequency tables and graphs. Wrong entries were corrected by cross-checking with the captured responses. Handwritten field notes captured through a Livescribe 3 smart pen were edited soon after administration of an instrument. The Livescribe 3 smart pen audio-recorded data were promptly backed-up in case the data got corrupted. The data were transcribed within 48 hours.

Since this study was premised within the mixed methods research framework, both qualitative and quantitative data were generated and collected. Both data genres were interpreted and analysed concurrently. Processed data results were collapsed. The SPSS Version 20 software was utilised to process and analyse the quantitative data, thus provided summative trends with regard to frequency counts, percentages and the calculation of appropriate indicators. Data from questionnaires were edited, coded, classified and tabulated (Burns, 2010). Qualitative data from the questionnaires, interviews and documents analysis were analysed through deciphered themes. This

meant that the data were also coded.

Data coding denotes a process of marking segments of text data with symbols, descriptive words or category names (Johnson and Christensen, 2012; Burns, 2010). In the case of quantitative data, numerals or symbols were assigned to responses such that they could be put into a limited number of categories in sync with the problem under probe. The identified categories or themes were further be clustered into meaningful groups. The data were scrutinised for specific meanings in relationship to the problem under probe. Matters arising from the research interviews (one-on-one and focus groups), questionnaires and document analysis were blended together to come up with the findings of the study. However, it remained the responsibility of the researcher to adhere to reliability and trustworthiness dictates in reporting the research findings. This was done in appreciation of the fact that data analysis was a continuous and iterative (non-linear) process (Nieuwenhuis, 2007), which implied that data collection; processing, analysis and reporting are intertwined. The researcher read data transcripts several times so as to ascertain the authenticity of his thematic interpretations. Meanwhile, it should be underscored that all the research data were stored in multiple data reservoirs for backup purposes and future reference. Such data reservoirs were several flash disks, external hard drives, the researcher's laptop and his desktop's Local Disk C. The data were equally shared with the research supervisor on her two email addresses for the same purpose.

3.10 Research validity/trustworthiness or legitimation

The purpose of this segment is to dialogue on validity issues in research, in general, and with particular reference to quality criteria espoused for the mixed methods research approach guiding this study. First, an overview is discussed on how validity is viewed and defined in quantitative and qualitative research. On face value, it is underscored that non-positivist research approaches are plagued with the problem of representation and that of legitimation. In addition, assessing the goodness or research quality of a mixed methods research study is exacerbated by the problem of

integration. Furthermore, Onwuegbuzie and Johnson (2006) recommend that validity in mixed research be termed legitimization or trustworthiness since the terms are more acceptable by both quantitative and qualitative researchers.

3.10.1 Conceptualisation of research validity

Northcote (2012) opines that evaluation of the quality of quantitative research often depends on the “holy trinity” criteria of objectivity, reliability and validity espoused by Spencer, et al. (2003). The holy trinity construct is consolidated by the general portrayal of research by the public. For instance, the concept of research is often portrayed by metaphors of white-coated scientists busy in laboratory, experimenting or grappling with some statistical reports. It is rare for the public as research consumers to talk about an interviewer, an ethnographer or an observer. According to Northcote (2012), research as experiment is thus the pervading paradigm. Concepts such as researcher-as-participant (Patton, 2002), reflexivity (Alvesson and Skoldberg, 2009) and multiple voicing (Gergen and Gergen, 2000) that characterise qualitative research, are rarely echoed. As such, the assumption that quantitative research is the real research is resonant but has to be managed. Consequently, Spencer, et al. (2003) warns that applying the quality criteria for quantitative research to qualitative research would be a misfit or considerable misnomer. As an alternative, educational researchers who embark on qualitative research have frequently used various sets of validity criteria among these: transferability, authenticity, conformability, dependability, generalisability, reciprocity, reflexivity, fittingness, vitality, triangulation and goodness (Creswell, 2002; Patton, 2009; Ritchie, Spencer and O’Connor, 2003; Stige, Malterud and Midtgarden, 2009). Tracy (2010) has what she calls the eight “big-tent” criteria for excellent qualitative research. Furthermore, Stige, Malterud and Midtgarden (2009) argue that they have identified more than one hundred sets of qualitative research validity criteria.

In view of the foresaid, it may be deduced that the significance of validity, that is research quality, in quantitative research has long been accepted. However, in

qualitative research, validity discussion remains contentious characterised by different typologies and terms. In mixed research, wherein quantitative and qualitative approaches are combined, discussions about validity issues are in their infancy, progress thereof being exacerbated by the inherent problem of integration, which is, taking a middle of the road position (Onwuegbuzie and Johnson, 2006: 38). The authors recommend that validity in mixed methods research be called legitimization.

Although providing a framework for assessing legitimization in mixed methods research is not exhaustive, it is prudent that several legitimization types be addressed combining inferences from the quantitative and qualitative components of the study. This leads to the formation of meta-inferences (Onwuegbuzie and Johnson, 2006). Meanwhile, it should be underscored that research validity in this study was not about coming up with singular truths as is the case with quantitative measurements of research quality. Validity meant that all research components from design, data gathering, data analysis, interpretation and the conclusions drawn were to be subjected to some scrutiny that determined whether an inquiry was of high/low quality, or somewhere in between (Cohen, Manion and Morrison, 2007). Overall, the research study needed to be defensible. It was supposed to be something which one rationally spoke about in sync with some shared norms, practices, values and beliefs.

3.10.2 Validity in qualitative research

In qualitative research, the primary focus is for researchers to authentically or truthfully capture the lived experiences of the research participants (Onwuegbuzie and Johnson, 2006). However, Denzin and Lincoln (2005) argue that authenticity depends on the representation prowess of the researcher which brings to the fore the representational problem. To confront the inescapable problem of representation, Denzin and Lincoln (2005) suggest that qualitative researchers should do away with thinking through terms such as validity, generalisability and reliability as is advocated by quantitative researchers. Instead, the authors espouse the use of constructs such as credibility (replacement for quantitative concept of internal validity), transferability (replacement

for quantitative concept of external validity), dependability (replacement for quantitative concept of reliability), and conformability (replacement for quantitative concept of objectivity or generalisability) (Table 7).

Table 3. 6 Criteria for judging quantitative and qualitative research

Criteria for judging quantitative research	Criteria for judging qualitative research
Internal validity	Credibility
External validity	Transferability
Reliability	Dependability
Objectivity	Confirmability

Source: Shumba (2012: 98)

Onwuegbuzie and Johnson (2006) note that another useful classification for validity in qualitative research is provided by Maxwell (1992) who identifies five types of validity (Table 3.7).

Table 3. 7 Maxwell's (1992) classification of validity of qualitative research

Validity Type	Description
Descriptive validity	Factual accuracy of the account as documented by the researcher.
Interpretive validity	The degree to which an interpretation of the account represents an understanding of the perspective of the underlying group and the meanings attached to the members' words and actions.
Theoretical validity	The extent to which a theoretical explanation developed from research findings is consistent with the data.
Evaluative validity	The extent to which an evaluation framework can be applied to the

	objects of the study, as opposed to a descriptive, interpretive or explanatory one.
Generalisability	The degree to which a researcher can generalise the account of a particular situation, context, or population to other individuals, times, settings or context.

Generalisability is further split into two categories, namely: internal and external generalisability. The former refers to the generalisability of research conclusions within the underlying setting or group and the latter pertains to generalisability beyond the group, setting, time, or context. In the context of qualitative research, according to Maxwell (2005), internal generalisability is given more preference compared to external generalisability. Different researchers and methodologists seem to have come up with varied conceptions of qualitative legitimization models (Cohen, Manion and Morrison, 2007). The diversity shows how wide-ranging and varied are the criteria to ascertain the quality of qualitative research. It may be deduced that qualitative research, by its nature, does not attract a particular evaluation criteria, as is the case with quantitative research. Consequently, it becomes the prerogative of the researcher in qualitative research to come up with a befitting evaluation criterion. However, Northcote (2012) advises that the messiness or complexity associated with the decision making can be quite confronting, particularly in the case of novice researchers.

It is in recognition of the complexity in coming up with befitting measures of judging the quality of qualitative research components of this study that this section examines a number of approaches researchers use to evaluate qualitative educational researches. This is in spite of the fact that the problem of how to evaluate the quality of qualitative research is a known phenomenon (Lincoln and Guba, 2000) particularly on realisation that applying the “holy trinity” of objectivity, reliability and validity (Spencer, et al., 2003:59) does not suffice. Northcote (2012) concurs that in some instances qualitative research has been successfully evaluated using the criteria of quantitative research. The adoption of quantitative research criteria in evaluating qualitative

research is drawn from the conviction that all research is a scientific endeavour (Johnson, 2011). This is because all research seeks to systematically, deliberately and critically understand a phenomenon and make evidence-based decisions. In that view, research validity and reliability has to be established, and the absence of which renders the study worthless (Cohen, Manion and Morrison, 2007: 133). Consequently, any research must meet high quality standards if results thereof are to be regarded as credible and trustworthy.

In addition, since positivism is often viewed as the preferred and accepted method of research (Cohen and Crabtree, 2008), in most instances, the authenticity or goodness of non-mono research approach is seen to be subjective, thus highly questioned. In view of the above, a call is thus made to dispel researchers' misconceptions on appreciating the quality measures that befit each research type, that is, quantitative, qualitative and mixed methods research. Cohen, Manion and Morrison (2007) suggest that the idea of compartmentalising the holy trinity measures of research quality do not add value to the legitimisation dilemma. It appears to be a matter of semantics since the terms can be applied to both types of research. What differs is how validity and reliability are addressed in each approach. According to Cohen, Manion and Morrison (2007:133), "...validity and reliability are addressed using different data collection instruments." Meanwhile, it should be noted that this study adopts the above research quality determinant stance where reliability and validity are used but not in the strictly positivist sense. This was in concurrence with the argument put forward by Northcote (2012) who says judging the quality of a qualitative research on the basis of criteria used in determining the quality of quantitative research, whose philosophical determinant is positivism is tantamount to taking a perfect apple to content in the best orange competition. No matter how beautiful, ripe or shiny the apple would be its mere inclusion in the competition would be absurd. Its entry would be doomed to failure since an apple is not a good fit when judged by criteria used to evaluate a good orange. Such a scenario would certainly be problematic. The application of quantitative research criteria in judging the goodness of qualitative research is on face value not a good fit. However, while many researchers appreciate the need to match research

paradigm with research methodology, some disagree (Cohen and Crabtree, 2008; Lather, 2004). Some researchers argue that compartmentalisation only serves to complicate matters with some methodologists championing a particular trajectory for its own sake. Such misconceptions may misinform novice researchers and further deepen the apple against orange dilemma alluded to above. Nonetheless, in judging the quality of a research, methodologists concur that one has to look at the following research attributes:

- i. The size of the research sample;
- ii. How the researcher's bias has been removed from the study;
- iii. How all the 'variables' were kept in check;
- iv. Whether research instruments measure what they intent to measure (Merriam, 2002);
- v. Whether data matches the claims being made, and
- vi. Whether the same results would be realised on repeating the same research (Northcote, 2012).

The problems associated with selecting appropriate criteria by which to evaluate the goodness of a research are not just related to the research approach and intention, but also to the epistemological beliefs held by both researchers and research participants (Northcote, 2012). In some cases, the epistemology of the audience for whom the research findings are intended may also influence the nature of the research. In addition to questions of research paradigm and epistemological belief, the assessment of the quality of research is also dependent on the field of inquiry and disciplinary field (Northcote, 2012). Due to the wide-ranging nature of qualitative research, it is justifiable to conclude that the research genre is not certainly a ".... unified field" (Cohen and Crabtree, 2008:338). Besides, qualitative researchers continue to institute alternative sets of criteria which are used to evaluate the goodness of qualitative and interpretive research (Tong, et al., 2007; Viney and Nagy, 2011). Despite the diversity of the criteria, it is maintained that the goodness of a non-quantitative research hinges on the trustworthiness (Patton, 2002) of its findings.

Below is further outline of some of these sets of legitimisation criteria. For example, Flick

(2004) uses the criteria of rigour, breadth and depth; Mays and Pope (2000) espouse the use of validity and relevance; Driessen et al. (2005) uses member checking, prolonged engagement and triangulation. Tong, Sainsbury and Craig (2007) have a checklist made up of 32 items, which they term consolidated criteria for reporting qualitative research. However, Table 9 attempts to provide an intertwined overview of some of the foresaid criteria sets. The criteria are presented in the form of guiding principles informed by the four principles espoused by Spencer et al.'s (2003) criteria, namely: contributory, rigorous, defensible and credible, as well as Garman's (1996) recommendations of vitality and aesthetics (affective), cited by Northcote (2012).

Table 3. 8 Guiding principles used to evaluate qualitative research

Guiding Principle	Guiding Question
Contributory in advancing wider knowledge or understanding about policy, practice, theory or a particular field.	Have the findings of the study contributed to knowledge and understanding of CAR by lecturers and student teachers? How has the research benefited the researcher?
Rigorous in conduct through the systematic and transparent collection, analysis and interpretation of qualitative data.	Are the methods used to gather, analyse, interpret and present the data rigorous, systematic and transparent?
Defensible in design by providing a research strategy that can address the evaluative questions posed.	Is the study's research design defensible, trustworthy and linked to its research questions?
Credible in claim through offering well-founded and plausible arguments about the significance of the evidence generated.	Are the research findings credible and supported by empirical evidence?
Affective in nature by acknowledging the excitement associated with research discoveries, the emotional involvement of the participants and the enthusiasm of the researcher.	Do the research processes and findings communicate the emotional elements of how the participants and the researcher engaged in the research study?

3.10.3 Validity in mixed methods research

Since the term validity is associated with the quantitative conceptualisation of the research process, non-positivist researchers (mixed researchers included) have generally replaced validity by the term trustworthiness (Creswell, 2014). Mixed

methods research, as has been pointed out before, involves the combination of quantitative and qualitative methods, approaches and concepts that have complementary strengths and non-overlapping weaknesses (Johnson and Turner, 2003). The goal of mixed research is not to replace either quantitative or qualitative research. Rather, focus is on utilising the strengths of these approaches by combining them in one study and by attempting to minimise their inadequacies. The mixing, however, goes beyond triangulation. Mixed methods research implies putting together of the different research approaches, methods and strategies in diverse and creative ways. As is the case with measuring legitimacy in qualitative research, mixed methods research is also plagued with the problems of representation, integration, and legitimation (Onwuegbuzie and Johnson, 2006). The problem of representation involves the challenge of capturing lived experiences using text, that is, words and numbers. The problem of research validation or legitimation, on the one hand, focuses on the difficulty in making inferences that are credible, trustworthy, dependable, transferable or confirmable. On the other hand, the problem of integration carries with it the representation and legitimation difficulties already associated with either quantitative or qualitative research (Teddle and Tashakkori, 2006; Onwuegbuzie and Leech, 2004a).

Onwuegbuzie and Johnson (2006) further stress the problem of integration by noting that because of the complexity involved in combining qualitative and quantitative studies in whatever design form either concurrent, sequential, conversion, parallel, or fully mixed manner, mixed methods research is plagued with the problem of integration. Surrounding this problem is the extent to which mixed methods research addresses each of the five principles outlined in Table 10, below. The outline stresses that every mixed research study must deal with the problems of representation, legitimation and integration that are usually not associated with mono-method designs. In an attempt to ameliorate the impact of these three major challenges to the research's quality, the researcher adopted multiple quality strategies within the confinements of Tashakkori and Teddle's (2006) mixed methods research legitimation evaluation criteria (Appendix R). The authors identify nine types of legitimation that

justifiably assess the goodness of a mixed research study. The nine types of legitimation criteria, according to (Onwuegbuzie and Johnson, 2006:57) are: sample integration legitimation, insider-outsider legitimation, weakness minimisation legitimation, sequential legitimation, conversion legitimation paradigmatic mixing legitimation, commensurability legitimation, multiple validities legitimation and political legitimation.

Table 3. 9 Five major mixed methods research principles

Principle		Description
1	Triangulation	Seeking convergence and corroboration of findings from different methods that study the same phenomenon.
2	Complementarity	Seeking elaboration, illustration, enhancement and clarification of the findings from one method with results from the other method.
3	Development	Using the findings from one method to help inform the other method.
4	Initiation	Discovering paradoxes and contradictions that may lead to re-framing of the research question.
5	Expansion	Seeking to expand the breadth and range of inquiry by using different methods for different inquiry components.

Source: Adapted from Greene et al. (1989) in Onwuegbuzie and Johnson (2006)

According to Lincoln, Lynham and Guba (2011) and Nieuwenhuis (2007), the above legitimation types may still be collapsed into making inferences that are credible, trustworthy, dependable, transferable or confirmable. The collapsing is necessitated by the ease in comprehension and complementarity of the quality measures, taking into account mixed methods research approach challenges of representation, legitimation and integration. The associated legitimation measures are discussed in the following section.

3.10.4 Research quality measures for this study

3.10.4.1 Credibility

Credibility accounts for the entire non-quantitative research process, that is, starting off with the research design, preparation of the field work, authority of the researcher, pilot testing of the research instruments with persons similar to the targeted population, rational selection of the research sample, participants' control of the research data and peer evaluation of the purpose of the study, data collection process, analysis and associated research findings (Maphosa, 2010; Marongwe, 2014). This concurs with Shumba (2011) who notes that threats to credibility in research relates mainly to data collection, data analysis and the choice of the target population and research sample. It focuses on making sure that the research results are believable from the participants view point.

Since the purpose of the study was to make an in-depth description and understanding of the CAR issues under probe through the eyes of the major players, that is, teacher educators and preservice teachers, the participants remained the major legitimate judges of the credibility of the research results. In that view, the researcher intelligently considered the purposive way by which the research participants were sampled. Effort was made to ensure that the sample was representative enough, that is, neither too small nor too large. Accurate description of the research informants, research procedures and associated research instruments was done to ensure the credibility of the investigation in the course of someone else undertaking the research using the same technique (Leedy and Ormrod, 2005). The readability of the research instruments were checked to desist from the use of ambiguous instructions, terms and questions. In addition, the researcher ensured that the instruments were neither too short nor too long, and fair distribution of question items were made on all issues under probe. During interviews, the researcher desisted from communicating with interviewees his personal opinion on issues under

probe, lest they were swayed. Accordingly, pilot-testing the research instruments also added value to their credibility as effort was made to ensure that the instruments solicited what they intended. The researcher incorporated suggestions brought forth by mainly the research supervisor, colleagues and the research participants, whenever they added value to the utility of the research instruments or the entire research process.

To seek insider-outsider legitimation, that is, the extent to which the researcher accurately presented the insider's and outsider's views, member checking was utilised. Here the researcher made use of colleague teacher educators, who were not part of the research sample, to examine the interpretations made, the conceptualisations and the relationship between the data and the conclusions. A couple of participants were also asked to review the researcher's interpretations. In other words, the researcher maintained a well-informed and balanced perspective when collecting, analysing and interpreting both qualitative and quantitative data. To realise conversion legitimation, narrative descriptions from quantitative data were made. However, caution was made to ensure that the descriptions did not over-generalise the observed numeric data. To avoid the pitfall of lacing the research with the preconceived researcher's emotions or beliefs (Stringer, 2014), effort was made to provide a thick description of the research data, where need be. The researcher made an undertaking to ensure that the research data and research findings were accurately recorded and reported without fabrication or the incorporation of fraudulent materials. Effort was made to accurately report research findings, dictated by the verbatim accounts or snippets of participants and remarks extracted from the CAR assessment reports, in compliance with Denzin and Lincoln's (2005:145) emphasis that "Fabrications, fraudulent materials, omissions and contrivances are both non-scientific and unethical."

To realise political legitimation, the researcher concisely outlined the research questions, research purpose and associated research significance. He made sure that the research results clearly answered the research questions. Additionally, an attempt was made to provide workable solutions or tentative intervention strategies.

To ensure that the research findings were authenticated, multiple data sources were utilised, namely: questionnaires, interviews, focus group discussions and analysis of documents. Such triangulation of data allowed the researcher to cross-check the accuracy of the research data (Babbie, 2010; Bogdan and Biklen, 2007; Denzin and Lincoln, 2008). Additionally, teacher educators who participated in the investigation had the mandate to nurture pre-service students with the requisite CAR skills and competencies, and related pedagogical prowess. Their institutions were anticipated to be competent repositories for initial teacher education and professional development. In view of the above, the chosen research informants were extremely appropriate social actors whose CAR perceptions, if honestly solicited, would certainly be readily believed. Member-checking was also done, where informants were given the opportunity to review the collected data, related presentation and analysis thereof. Application for ethical clearance was sought and granted by the University of Fort Hare's (UFH) Research Ethics Committee prior to embarking on data collection.

3.10.4.2 Transferability

Transferability or research applicability deals with the generalisation of the findings from the research sample to the target population (Rossouw, 2003). It denotes the degree upon which research findings may be generalised or transferred to other contexts or settings to different participants but in similar circumstances. In this study transferability was made possible by providing detailed descriptions of the entire research process; detailed interrogation of associated CAR delivery themes and perspectives through consultation of relevant literature plus making thick and rich description of the research quality criteria.

3.10.4.3 Dependability

Dependability denotes that research findings should remain consistent (Rossouw, 2003). According to Maree (2007), dependability focuses on the extent to which a measure or research instrument is repeatable. High dependability is realised when the

measure or instrument can be replicated consistently on the same sample (Tashakkori and Teddlie, 2003). However, caution should be made that human beings are rational social actors, whose behaviour is highly dynamic; therefore, total dependability is certainly unattainable. Consequently, one may not expect to have exactly the same findings in subsequent studies even if data collection procedures or the research sample could be the same. However, a reasonable degree of dependability has to be achieved for research results to be acceptable. Even in inquiries where triangulation is done, it is expected that when an alternative competent researcher goes through the raw data one has to come up with somehow homogeneous results. Even if the research design is used with a different research sample under similar circumstances, one should expect more or less similar findings (Babbie and Mouton, 2010). In this study, this was achieved by describing in detail the research sample, data collection, analysis, subsequent judgment and overall report writing procedures (Cohen, Manion and Morrison, 2007). Each step or decision undertaken in this study was justified.

3.10.4.4 Confirmability

Confirmability refers to the extent to which results could be confirmed or corroborated by others. The construct stresses that the researcher should not allow his data analysis, interpretation and judgment to be clouded by preconceived emotions, ideas or beliefs. Trochim (2006) emphasises that a researcher should always clearly, richly and densely document the research procedures for one's investigation such that it may be understood by the least of a novice researcher. In recognition of the foresaid, the entire research process, not mere research data, were repeatedly checked during the course of the study. The researcher ensured that there was always a chain of empirical evidence to support every logical claim he made, such that the study did not easily slip into invalidity. This was driven by the conviction that findings in mixed methods research should be the construction of the sampled respondents and not any other biases or wishful thinking. Confirmability called for prodigious honesty on the part of the researcher, where he had to shield himself off from all illegitimate external and internal forces.

3.10.4.5 Researcher's competency

In an attempt to deal with the problems of representation and the integration dilemma in determining the worthiness of mixed methods research, researchers accede that the researcher is one of the most valuable assets if not the major research instrument. This implies that researcher's general prowess in carrying out a research is pivotal since even the collected raw data do not transcribe, analyse, interpret or report on itself. The deduction concurs with the assertion made by Merriam (2002) and Heming, et al., (2004) that a researcher is regarded by qualitative theorists as the principal tool of data collection and analysis. Certain research values, skills, competencies, knowledge, norms and roles should have been developed and experienced by a researcher. Overall, a researcher should have specific requisite competencies to produce a revered research account. For instance, in this age of information and communication technology explosion, one is expected to navigate with ease information retrieval on say internet.

One should also have easier access to portals or handles that discuss issues of one's research interest. It is thus underscored that if an incompetent researcher engages in a research activity the whole research process may be flawed and results rendered invalid and unreliable (Maphosa, 2010). Meanwhile, it should be pointed out that the researcher of this study is an avid reader and curriculum specialist with a strong passion in issues to do with the continuous professional development of teachers and teacher educators, educational management, language arts, orphans and vulnerable children and general provision of quality foundational level education as a public good. He has developed keen interest in the promotion of the teaching of science, technology, engineering and mathematics (STEM).

The trajectory is based on his conviction that the nurturing of reflective, creative and innovative generations is the sure way of turning around the seemingly melting down economies of the developing world. The researcher has to his credit, a Master of

Education Degree in Curriculum and Arts Theory; Bachelor of Education Degree, majoring in Educational Management and Language Arts; Diploma in Agriculture and a Certificate in Education, as is outlined in Appendix P. He started his career as a primary school classroom practitioner in 1989 and rose through the ranks to become a school head and eventually principal lecturer in Teacher Education, offering tuition in Professional Development Studies Syllabus 'A' (PSA) and PSC. He is a published author who also has several co-authored referred journal articles. It is evident that the researcher has a strong background on how to conduct educational research. He has successfully supervised numerous small-scale action research projects (popularly known in Zimbabwe as Curriculum Depth Study-CDS) produced by student teachers in partial fulfilment of the requirements of their Diploma in Education (Primary).

In addition, the researcher is a respected external examiner for both teaching practice and PS. His skills were complimented by the fact that his journey through this thesis was ably supervised by an experienced university professor. The researcher liaised regularly with the revered supervisor to review his decisions and questions that cropped up during the research. In spite of the foresaid professional credentials, the researcher was expected to conduct himself honestly and fairly. He intentionally desisted from reporting false information or fabricated research findings. To ensure accurate representation of data, the researcher espoused use of thick and rich verbatim accounts for qualitative data, and use of descriptive and inferential statistics for quantitative data. It is against the aforementioned educational research experience, competency, consultancy and guaranteed supervision that the researcher confidently undertook to embark on this study.

3.11 Ethical considerations

Researchers in all disciplines are guided by certain research ethics. Ethics involve individual and communal codes of conduct that require adherence to some principles (Briggs and Coleman, 2007). They are researchers' rules of conduct in planning, designing, implementing and reporting research findings (Rule and John, 2011; Leedy

and Ormrod, 2010). The British Educational Research Association (BERA) (2004:5) concurs by advising that 'all educational research should be conducted within an ethic of respect for the person, knowledge, democratic values, the quality of educational research and academic freedom'. In his interaction with respondents in this study, the researcher took deliberate cognisance of a couple of requisite ethical considerations. For instance, an attempt was made to ensure that all research participants and research sites remained anonymous to the reader such that their identity remains protected. The ethical consideration was adopted on recommendations espoused by most methodologists and researchers that by keeping informants nameless, their identity is secured from disclosure and any form of victimisation (Neuman, 2006). Additionally, participation in the study was absolutely voluntary. Informants also remained at liberty to withdraw their service at any time during the study. During interviews, for instance, the informants had to accede or decline to be audio-recorded. In view of the above, this research was mainly guided by ethical considerations dictated by the UFH Research Ethics Policy 2010 and the UFH Post-Graduate Qualification Policies and Procedures Handbook of 2010. Some of these ethical issues are outlined below.

3.11.1 Anonymity and confidentiality

In order to protect the privacy of the research participants and research sites, the researcher assured the participants of anonymity and confidentiality. Anonymity essentially means that the participant remained anonymous throughout the research, even to the researcher himself. This was done through use of codes and pseudonyms instead of actual names. On the other hand, confidentiality was guaranteed when the researcher could identify a given person's responses but promised not to divulge the information to anyone (Shumba, 2011). The researcher had the responsibility to conscientise the participants about this and also kept the promise (Babbie, 2010). Therefore, informants' information was not divulged and the information that they shared with the researcher was not shared in ways that would reveal their identities. In line with the above, all the participants were coded and

pseudonyms used such that they remained anonymous. Permission to collect data from the respondents was sought from and granted by the relevant authorities. The researcher only proceeded after written permission was granted. However, further access to data sources was negotiated in situ. Assurance was given to the participants that no other third party had access to the recorded data apart from the research supervisor or examiners. Consequently, all the research data were subsequently shredded soon after completion of the study, in liaison with the supervisor.

3.11.2 Voluntary participation

Voluntary participation stresses that every research informant should express consent to participate in research without being coerced. Coercion means forcing participation by some form of dominance by the researcher, especially when dealing with vulnerable populations (Cournoyer and Klein, 2000). As a matter of principle, the researcher informed the participants through the consent form that all participation in the study was voluntary. Participants were made aware of the opportunity to quit their participation anytime during the course of the study without even informing the researcher of reasons thereof. Informed consent was sought and obtained before the commencement of data collection.

3.11.3 Informed consent

Informed consent dictates that prospective research participants must be fully informed about the purpose of the study, procedures and risks involved in the research (Flick, Von Kardorff and Steinke, 2004). They should endorse their consent to participate in spite of the risks involved.

According to Gray (2004: 59):

Participants, gatekeepers and sponsors need to be informed about: the aims of the research, who will be undertaking it, who else is being asked to participate, what kind of information is being sought, how much of participant's time is required, that participation is voluntary throughout, that responding to

all questions is voluntary, who will have access to the data once it is collected and how anonymity will be preserved.

Hennink, Hutter and Bailey (2011:63) concur that “individuals should be provided with sufficient information about the research, in a format that is comprehensible to them, and make a voluntary decision to participate in a research study.” In this study, the researcher informed participants about the purpose of the investigation, the research procedures and associated risks. A detailed information sheet and a participant consent form (Appendices F and G) were availed to participants before their engagement in the study. For instance, upon visiting a college to administer the questionnaire or conduct an interview, first, the informants were given time to go through the participants’ information sheet and the consent form before embarking on the interview. Any questions the respondents had pertaining to the study were clarified before they agreed to partake. Attempt was made to fully explain the purpose of the study and emphasis made that the participation was basically voluntary.

3.11.4 Deception

Deception can mean that individuals participate in research under false pretenses (Huysamen, 1994, in Shumba, 2011). The false pretenses can be that the true nature of the research is withheld from the participants or that they are deliberately deceived or misled. Therefore, it was important for the researcher to debrief the participants after the study was over (Babbie and Mount, 2005). In this research, the researcher undertook it upon himself to inform participants about the purpose of the research, research procedures and to clarify any incidents before, during and after the study. Participants were assured that the information they supplied were to be treated in utmost confidentiality for the sole purpose of the study.

3.11.5 Observance of human rights

Ethical standards in research require that researchers should not put participants into harm by exposing them to risky situations. Harm can be viewed as both physical and

psychological (Darlington and Scott, 2002 in Shumba, 2011). Israel and Hay (2006) note that harm in research participation may also include discomfort, social disadvantage and invasion of one's privacy or infringement of rights than physical injury. The researcher ensured that no physical, psychological, or any other risks were inherent in this study. The provisions of the dominant data collection instruments, viz: questionnaires, interviews, focus group discussions and document analysis, were deliberately made harm-free through peer review, pilot testing and scrutiny by educational experts. The research informants were made not to suspect that they were under investigation, or being subjected to unwarranted stressful pressure (Chikwa, 2012). In reiteration, effort was made by the researcher to ensure that participants appreciated the purpose of the study and that they would not be victimised in any way during and after the study.

3.11.6 Research permission

Permission to carry out the study was sought and granted by the University of Fort Hare's Ethics Committee (Appendix A). Additionally, permission to conduct research in the identified teachers' colleges was sought from and granted by the line ministry (Ministry of Higher and Tertiary Education, Science and Technology Development) and respective college principals. It was only after being granted the written permission that the researcher had to proceed with the requisite data collection.

3.12 Summary

Guided by the study's sub-research questions, this chapter examined the associated research strategies. It is here underscored that the study was guided by the mixed methods research approach which is drawn from the pragmatism paradigm. Effort was made to give detailed account of each of the chosen methodological aspects, namely: the research paradigm, research approach, research design, population, sample and sampling procedures, data collection instruments, data analysis, issues of trustworthiness or legitimation and ethical considerations. Associated methodological

limitations, inadequacies and impediments were also interrogated and tentative amelioration strategies proffered. A detailed description of the research process was made on the conviction that research dependability, applicability and replicability or generalisability can only be realised by research consumers if they understand the research process. In addition, the design, development and implementation of the associated research instruments were explicated and in situ justification made for each decision taken. That having been said, the next chapter focuses on data presentation and analysis.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This study sought to explore teacher educators' and student teachers' perceptions on the implementation of classroom action research (CAR) in Zimbabwean teacher education colleges. In the preceding chapter the researcher provided a detailed description of the research paradigm, approach, design and methodological procedures exploited in gathering data for the study. This chapter presented and analysed the collected data as was alluded to in the preceding chapter. The chapter was divided into several thematic sub-sections that include the demographic credentials of the research informants; respondents' perceptions on the incorporation of CAR as an integral component of the teacher education curriculum; overview of the predominant CAR implementation strategies in Zimbabwean teacher education institutions and interrogation of the overarching CAR norms and standards and associated impediments. In conclusion, the section discussed tentative strategies that might be exploited to ameliorate the noted CAR shortcomings.

Meanwhile, it should be underscored that research data were gathered through quantitative and qualitative methods in sync with the espoused mixed-methods research approach. Quantitative data were mainly solicited through questionnaires, which were self-administered by the researcher to a total of forty teacher educators and fifty-two final year student teachers drawn from two teacher education colleges, herein called College X (CX) and College Y (CY). The quantitative data were analysed using the IBM SPSS statistical software. Statistical data representations were made through graphical presentations such as the use of frequency tables, pie charts, bars or line graphs. Descriptive statistics such as range, mean and mode were also utilised. The descriptive statistics were used to clarify and give summation of the main points. Qualitative data, on one hand were solicited from the respondents through use of the

following instruments: semi-structured interviews, focus group discussions and document analysis. Qualitative data were predominantly verbatim quotations made to accurately capture the respondents' expressions. Inferences were then drawn from the data analysis and concise conclusions made from the findings. To ensure accurate recording of qualitative data, particularly interviews, the researcher used a Livescribe 3 Bluetooth Smartpen that simultaneously captured both field notes and audio recordings. The recorded data were then promptly transcribed into text that was then stored on the researcher's external hard drives, Office Desktop's Local C Drive and Google cloud. The data were also shared with the supervisor and sent to the researcher's alternative emails as a backup strategy. Additionally, qualitative data were further collected from 24 additional teacher educators and 24 final-year student teachers, that is, two sets of lecturers and student teachers drawn from each of the research sites. Six lecturers and the same number of student teachers were interviewed from each of the two teachers' colleges. An equal number of respondents from each of the colleges also participated in focus group discussions. Furthermore, sample research projects ($n = 12$) and associated PSA coursework files were reviewed to check on the general quality of the students CAR projects and associated research tuition.

For easy referencing, the researcher coded all research cases or respondents, that is, interviewees and those who completed the research questionnaires. Outlined below is a series of the codes used:

CXL	College X lecturer
CYL	College Y lecturer
CXS	College X student teacher
CYS	College Y student teacher
CXLFGD	College X lecturers' focus group discussion
CYLFGD	College Y lecturers' focus group discussion
CXSFGD	College X students' focus group discussion
CYSFGD	College X lecturers' focus group discussion
CXLI	College X lecturer interviewee

CYLI	College Y lecturer interviewee
CXSI	College X student interviewee
CYSI	College X student interviewee
CXPR	College X project report
CYPR	College Y project report

It should be noted that both interviewees and questionnaire respondents used pseudonyms. However, questionnaire respondents were further allocated numbers to ease data capturing on the SPSS package. For instance, student teachers were coded in the format CXS1, meaning College X student teacher number one. In the same fashion, CYL11 meant College Y lecturer number 11. In that view, where pseudonyms were used in the thesis, they were italicised together with the associated identification codes, such as, *Harbinger CXL3*.

4.2 Demographic credentials of informants

Since the research informants were drawn from teacher educators and final-year student teachers, this section presents the related biographical variables for each set of respondents separately, with data solicited from the returned questionnaires.

Table 4. 1 Biographical variables for teacher educators (n = 40)

Biographical Variable	Variable Description	Frequency	Percentage
Gender	Male	23	57.5
	Female	17	42.5
Age	36–40	1	2.5
	41–45	11	27.5
	46–50	18	45.0
	Over 50	10	25.0

Teaching Experience in Teacher Education	1–5	6	15.0
	6–10	18	45.0
	11–15	6	15.0
	Over 15	10	25.0
Professional Qualification	PhD	1	2.5
	MEd	27	67.5
	B.Ed	11	27.5
	Dip in Edu	1	2.5
Job Titles	Lecturer	14	35.0
	Senior Lecturer	7	17.05
	Principal Lecturer	15	37.5
	LIC/HOD	4	10.0
Classroom Practitioner Teaching Experience	1–5	2	5.0
	6–10	12	30.0
	11–15	8	20.02
	Over 15	18	45.0
Level taught prior to appointment as a lecturer	Infants	2	5.0
	Junior Primary	19	47.5
	Junior Secondary	2	5.0
	Senior Secondary	17	42.5

The biographical variables for teacher educators (Table 4.1) showed that respondents to the questionnaire were drawn from a wide spectrum of backgrounds. The majority of the respondents 57.5% (n = 23) were male whereas 42.5% (n = 17) were female. The distribution dispels the notion that teaching is a female-dominated profession, in the case of this study. The majority of the respondents 70% (n = 28) were over the age of forty-five years. In addition 60% (n = 24) of the lecturers had teaching experience in teacher-education of less than a decade. Only 40% (n = 16) had teaching experience of more than a decade. Teacher educators with at least a Masters of Education Degree were 67.5% (n = 27), thus making teacher education a masters profession, in

the case of this study. If the teacher educators' professional standing is considered, it was noted that 65% (n = 26) of them were no novice lecturers. The majority were in the post lecturer status, with 47% (n = 19) being principal lecturers. Additionally, all the respondents were seasoned classroom practitioners, with 65% (n = 26) having pre-teacher educator teaching experience of more than 10 years, drawn mainly from junior primary and senior secondary, that is, 47.5% (n = 19) and 42.5% (n = 17), respectively. In addition, the respondents were drawn from virtually all the ITEPD subject areas (Figure 4.1).

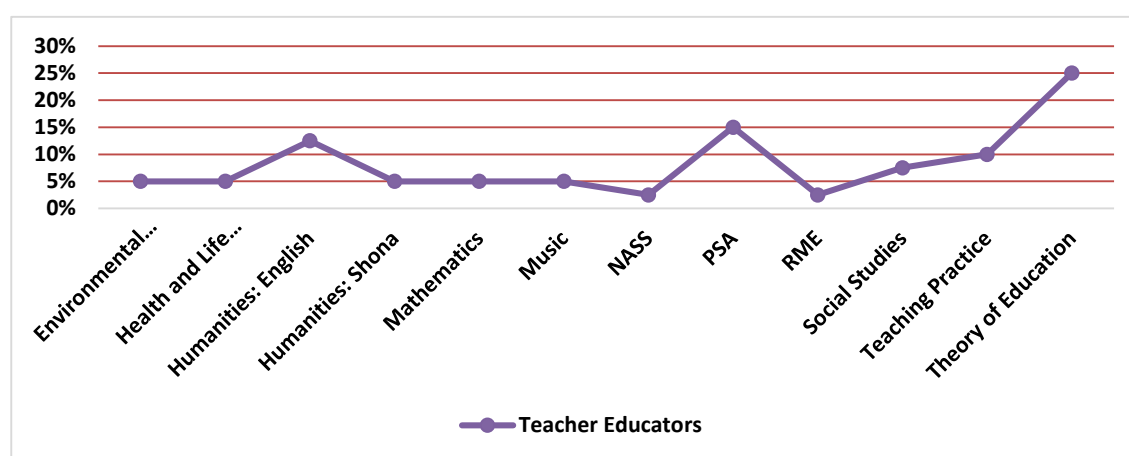


Figure 4. 1 Distribution of teacher educators by subject areas (n = 40)

It was evident from the collected data that the teacher educator respondents to the questionnaires were mature, well-educated and professionally experienced to provide valuable views on the diverse concerns bedeviling the implementation of CAR in Zimbabwean teacher education colleges. They certainly had the requisite experiences and expertise. The fact that respondents were drawn from a wide spectrum of experiential background assured the researcher of diverse but complimentary views with regard to the issues under investigation. Having looked at biographical variables for teacher educators, the research now summarises the biographical variables for the student teachers who responded to the research questionnaires, as is illustrated in Table 4.2, below:

Table 4. 2 Biographical variables for student teachers (n = 52)

Variable	Variable Description	Frequency	Percentage
Gender	Male	27	51.9
	Female	25	48.1
Age	20–25	16	30.8
	26–30	10	19.2
	31–35	9	17.3
	36–40	14	26.9
	Over 40	3	5.8
Pre-Teacher Training Experience	None	33	63.5
	Less than a year	16	30.8
	1–5	3	5.8
Highest Academic Qualification	A-Level	15	28.8
	O-Level	37	71.2

It was evident from the biographical variables for student teachers (Table 4.2) that responded to the questionnaire were drawn from a diversity of attributes and experiential backgrounds. The majority of the respondents 51.9% (n = 27) were male whereas 48.1% (n = 25) were female. Approximately, half of the student teachers (50% n = 26) were in the 20–30 years age group. The other half were over the age of 30 years. Predominant age groups were the 20–25 years and the 36–40 years that had 31% (n = 16) and 27% (n = 14) respondents, respectively. It was noted that 36% (n = 19) of the student teachers had pre-teacher-training teaching experience of up to five years. This meant that a significant proportion of the respondents had some exposure on the goings in the classroom from a teacher perspective. They were not virtually blank on life as a teacher. Such experience was of significance in discussing concerns bedeviling the classroom. Additionally, 71.2% (n = 37) of the respondents had O-Levels as their highest academic qualification on admission as teacher trainees, whereas 28.8% had A-Level passes.

This showed that teacher candidates were slowly becoming A-Level school leavers. Furthermore, it was realised that 42% (n = 26) of the student teachers had successfully completed some professional qualification (Table 4.3) prior to embarking on the initial teacher education and development programme. They possessed a plethora of higher education certificates or diplomas in areas such as Accountancy, Human Resources Management, Legal Studies, Office Administration, Auto-Electrician and Mechanical Engineering.

Table 4. 3 Student teachers' pre-training qualifications (n = 52)

Qualification	Frequency	Percent	Cumulative Percent
Auto Electrician Certificate	2	3.8	3.8
Bakery Certificate	1	1.9	5.8
Cashier Certificate	1	1.9	7.7
Dip. Graphic Designing	1	1.9	9.6
Diploma in Accountancy	3	5.8	15.4
Dressmaking Certificate	1	1.9	17.3
Human Resources Management	1	1.9	19.2
Human Resources Management	1	1.9	21.2
Interior Design	1	1.9	23.1
Legal Studies Certificate	1	1.9	25.0
Marketing Diploma LCCI	2	3.8	28.8
Mechanical Engineering	1	1.9	30.8
Motor Vehicle Maintenance	1	1.9	32.7
None	30	57.7	90.4
Office Administration	2	3.8	94.2
Theology Diploma	1	1.9	96.2
Till Operator Certificate	1	1.9	98.1
Webb Programming	1	1.9	100.0
Total	52	100.0	

The above qualifications testified that the teacher candidates were highly trainable.

The data were also testimony of the higher level of maturity of the student teachers compared to mere school-leavers. However, one may justifiably deduce that a significant proportion of teacher candidates were into teaching as a profession of second choice, possibly owing to the melting Zimbabwean economy. In situations where teaching is not a profession of one's first choice, on face value, one would certainly view the teacher candidate's professional commitment with a pinch of salt.

4.3 Rationale for engagement in classroom action research

Lecturers were asked to state why they thought the CAR project or educational research was an important component of the initial teacher education and professional development programme. Solicited questionnaire, interviews and focus group discussions' data revealed that lecturers unanimously conceded that engaging teacher candidates in small-scale research work was an integral component of the initial professional teacher education and development curriculum and that the component should be awarded its rightful place in any initial teacher education programme. The concession was premised on the understanding that classroom action research (CAR) nurtures student teachers with the requisite teacher skills and competencies that enable them to make research-based classroom decisions in their day-to-day interaction with pupils. This was regarded as important because it enhances the pupils' academic achievement levels. The significance of CAR may be summarised by the following snippets from some of the lecturer respondents:

Shingi CXL20: CAR prepares student teachers to appreciate the trajectory that classroom interface should be informed by research-based decisions. Furthermore, it equips prospective teachers with reflective skills that are of paramount importance for their professional growth.

Tasaroka CXL12: CAR enables student teachers to reflect on their practice such that during their future classroom practice, they improve on the noted instructional shortcomings for the purpose of realising better student achievement levels.

LC CXL13: *Through teacher education research projects, student teachers are initiated to basic research skills. Such skills are needed for them to navigate their day-to-day classroom challenges. The skills are expected in their lifelong teaching profession, particularly, in the prevalent rapid expansion of both knowledge and pedagogical strategies.*

Mabrie CYL1 noted: *CAR is a very critical area as far as teacher preparation is concerned since a good teacher is supposed to be a good researcher too, to be efficient and effective in the classroom. The interviewee additionally underscored that CAR helps in the improvement of the student teacher's classroom practice for here and now, and the future.*

In view of the foresaid, it suffices to deduce that teacher educators agreed that CAR enables student teachers to reflect upon their work through mastery of inquiry and problem solving skills and proffer tentative solutions to instructional problems met during their tour of duty. Additionally, the research methods lectures and subsequent production of CAR projects by student teachers, besides enabling students to improve on their instructional capabilities, prepared them for later academic demands in furthering their professional education and development. CAR, relatively, enables teachers to keep abreast with modern educational trends. Overall, teachers are familiarised with the need to do away with reliance on say the traditional talk-and-chalk classroom methodologies and embrace interactive pedagogical strategies that would in turn foster better pupils' achievement levels.

On a similar positive note, the student teacher respondents, as is depicted in Table 14, appeared to strongly agree with the essence of the incorporation of CAR into the teacher education curriculum. Table 4.4 shows that on average, 91.54% (N = 47) of the students conceded that their involvement in CAR was of considerable benefit to their relative professional growth. However, as is illustrated elsewhere in the report, the students believed that there was much room for improvement of the research component if its benefit or utility was to immediately pervade within all the education

stakeholders.

Table 4. 4 Student teachers' perceptions on the utility of CAR (n = 52)

Value description		Strongly disagree		Neutral		Agree		Strongly agree	
		f	%	f	%	f	%	f	%
1	I became a better problem solver from doing the CAR project.	1	1.9	6	11.5	26	50.0	19	36.5
2	I felt more confident in helping my pupils through experience in CAR project.	1	1.9	3	5.8	17	32.7	31	59.6
3	I benefitted much from sharing my action research problem with others.	0	0	4	7.7	34	65.4	14	26.9
4	My desire to understand classroom practice was fulfilled when I did the CAR project.	0	0	2	3.8	24	46.2	26	50.0
5	I became more motivated during my teaching practice because of the classroom research.	1	1.9	3	5.8	23	44.2	24	46.2

4.4 Overview of the predominant CAR implementation strategies

The second sub-research question for the study sought to establish strategies which were used to implement CAR in Zimbabwean teacher education colleges. This aimed to provide comparison to practices elsewhere in the region and internationally. The predominant CAR implementation strategies identified were training of the teaching staff, delivery of research methods lectures, individual CAR projects' monitoring and supervision, and final assessment of the project reports. The strategies were mainly solicited through the various interviews and focus group discussions the researcher had with the respondents, both teacher educators and student teachers. These were complimented by the analysis of CAR related documents. It emerged from the study

that classroom research was recognised as an integral component of the ITEPD by the responsible authorities, that is, the Central Government and the college executives. However, significant disparities were noted on the implementation strategies, from one teacher education institution to the other. For instance, research lectures and CAR projects coordination at College X were spearheaded by the Distance Education Department; with research theory tutors drawn from all the other subject areas, though emphasis was made on personnel drawn from PSA lecturers. The organisational structure was slightly different with College Y where the research lectures were housed under PSA with a dedicated head of subject for CAR projects coordination. Furthermore, the college had a research resource person aimed at coordinating teacher educators' continuous professional development initiatives in educational research and publication of output thereof. However, in spite of the differences in methods of operation, both teachers' colleges ensured that prior to deployment for the five-term teaching practice, students were allocated to CAR project supervisors who would then walk them through the research process from the project proposal stage up to the final project report submission.

The overarching common denominator was that at the completion of the three-year pre-service ITEPD cycle, each student teacher was required to submit a small-scale classroom research project which carried a weight of 25% of the overall Professional Studies continuum. As a norm, the CAR projects were to be submitted before the end of Term 8, that is, in the final residential phase. The two colleges' Professional Studies Syllabus C (PSC) documents reckoned that the student teachers' research projects lay the foundation for the development of basic research skills and competencies in the student teachers. In that view, student teachers were expected to undergo vigorous CAR initiation during their three-year initial teacher education programme, in the 2-5-2 model (University of Zimbabwe, 2013). The model meant that student teachers were expected to receive direct tutorials in CAR during the first two terms of their first residential period. The lectures were scheduled for one-hour and one-and-half hours per week for each student's cohort at College X and College Y, respectively. The reviewed CAR lecture schedules for the two institutions showed enough coverage of

the research theory content expected of novice teacher researchers, related to content projected for several beginner teacher researchers (Mills, 2014; Shortwood Teachers College, 2013). However, the researcher noted with concern that the colleges' CAR syllabuses or course profiles were too concise that they did not specify the research content in detail nor specified any recommended reading sources as was the norm with most internationally recognised course profiles, such as that of the Jamaican Shortwood Teachers' College (Shortwood Teachers' College, 2013). This made it difficult for student teachers to enrich themselves during their study time as they spent most of their valuable time searching for relevant reading materials rather than do the actual reading. Additionally, interface with the student teachers affirmed that slightly close to half of the scheduled CAR lectures were actually delivered. The claim was substantiated by the number of lecture notes observed in the availed PSA course work files. The apathy was attributed by one lecturer to the highly fragmented lecture topics allocated to lecturers that would be justifiably covered in a single one-hour lecture. Additionally, it was noted that lecturers scheduled to take up CAR lectures preferred engagement in say teaching practice supervision where they got additional income.

Research findings revealed that the quality of research lectures student teachers received prior to embarking on the actual research was the CAR strategy that received the most scrutiny from the respondents. Most teacher educators argued that research methods lectures were the bedrock upon which the strength of any anticipated beginner researcher was built. Interestingly, those teacher educators who were not involved in the delivery of the CAR lectures vehemently blamed the PSA colleague lecturers for the slightly ineffective CAR implementation. A closer analysis of the blame game revealed some grain of truth. It was established that the contact time bestowed to research methods lectures was too little, especially taking into consideration that the lectures were conducted in earnest towards the end of the second term during the students' first residential phase. Research methods lectures were not carried out weekly as scheduled on the reviewed lecture schedules.

It was evident that teacher educators did not usually practice what they would have

planned, tantamount to not practising what one preaches. Furthermore, the bulk of the research lectures were said to be too theoretical, conducted mainly as mass-lectures to a class of approximately 350 student teachers. This meant that student teachers did not get the opportunity for individual attention that would be required, particularly, when new research concepts were being introduced. The research results revealed that the research theory students teachers got was relatively inadequate. It fell far short of the expectations of the majority of the teacher educators. This was mainly attributed to the little contact time allocated to research tuition. In addition, it was evident that lecturers in say main subject or academic areas and even ICT did not deliberately enhance students' understanding of research methods other than during the individual students' CAR projects' supervision. Meanwhile, as an intervention strategy, it was recommended that student teachers should be deliberately exposed to real CAR projects done by previous student cohorts. In-depth analysis of such projects should be done through interactive lectures so as to decipher the adopted research procedures, associated strengths and weaknesses, and even discuss the associated assessment rubrics as an alternative strategy of producing CAR projects of high quality.

To further develop in student teachers the requisite sublime research skills, interviewed heads of subject (HOS) noted that the colleges had CAR guidelines which they distributed among the student teachers prior to their departure for teaching practicum for the subsequent five terms. The guidelines or roadmaps served to remind student teachers of what was expected of them in their research process. It was established that during the first term of their teaching practicum, student teachers were expected to think through classroom based concerns they would want to study further drawn from virtually all the subject areas in the primary education curriculum. Segal (2009) concurs that teacher research should focus on finding solutions to a concern in the classroom that a student teacher would have identified.

At the beginning of the second term of the five-term teaching practice, the student teachers were convened for a two-day CAR workshop, whose purpose was to refresh

them on the research process and allocated them to prospective research projects supervisors. After agreeing with their supervisors on a particular researchable topic, student teachers were then expected to run with it. The research topics were predominantly those student teachers believed were evident in their classrooms and that they could address on an individual basis usually without the involvement of stakeholders outside the school, such as parents. It was important for the student teachers to ensure that the chosen CAR topics should be within their practice. This implied that the CAR projects deliberately avoided district-wide educational concerns that might be more complex to investigate and might require the utilisation of more financial resources and time. The practice was consistent with Burns' (2010) suggestion that in carrying out action research, student teachers should avoid investigating concerns they could do little about, such as, looking at the overhaul reconstruction of a particular subject area syllabus. Second, the author advises that research questions should be tailored within the available timeframe. The strategy, confirmed lecturer collaboration in nurturing students as a pivotal ingredient in determining the success of CAR projects as was testified in studies carried out by Hine and Lavery (2014b) and Ellis (2012).

Furthermore, after agreeing with the supervisor on a particular researchable topic, the students were then asked to work on their first introductory chapter and at the same time do in-depth reading of related literature. This marked the beginning of CAR interface between the student teacher and his or her supervisor. The consultation cycle continued monthly, scheduled for the last Friday of every month that was dubbed 'the golden Friday'. The consultations continued on the subsequent research chapters up to the end. Ordinarily, students returned for their second residential period having done data collection. The subsequent CAR project chapters were supposed to be finalised during the first term of the second residential period, that is, in Term 8. However, to ensure that some close supervision of the students' progress was kept in check, the interviewed College X HOS maintained that an instrument was instituted that demanded that every lecturer who visited a student teacher during teaching practice would return to the respective CAR projects' coordinator at the college. Where

the head of subject felt that there was little progress, the student concerned was summoned for possible intervention strategies.

Overall, student teachers (CXSF GD) conceded that the teacher educators were trying their level best to develop in students the requisite basal research skills and competencies, albeit under challenging circumstances. For instance, the student teachers reported that during teaching practice, particularly, early in their second term, students would undergo a two-day CAR vacation workshop before they embarked on the actual research to ensure that they were refreshed on the crucial components of the CAR project writing process. The workshop, however, they alleged, appeared too congested to serve its purpose. To make matters worse, the research workshop was alleged to often become preoccupied with several other teaching practice concerns that might require to be urgently addressed by the Teaching Practice department at the neglect of the workshop's initial mandate. For improved effectiveness, CXSF GD respondents found it prudent that the students' CAR workshop should remain focused on core business and recommended that such workshops should be decentralised to the education districts or circuits from which the student teachers served, to cut on both travelling costs and time.

In addition, interviewed HODs asserted that by the time student teachers returned to college for their second residential cycle they were expected to have done data collection. This was ascertained through an audit exercise that was coordinated by the head of subject in close liaison with the diverse CAR projects' supervisors. It was noted that since the research projects were classroom based, it was mandatory that students availed schemes of work, detailed lesson plans and children's work that bore the practising schools' official date stamps. In cases where the audit unveiled unsatisfactory progress, students were asked to regularise their status by revisiting their teaching practice schools. It was noted that the second residential cycle, in the case of CAR, was dedicated to data interpretation, analysis and discussion, and overall sprucing up of the project reports prior to their submission for final assessment. After having presented and analysed findings on predominant CAR implementation

strategies, the subsequent section presents and analyses data on the general quality of the students' CAR projects.

4.4 General quality of the students' CAR projects

Research respondents were afforded the chance to judge the quality of CAR projects produced by the generality of student teachers at the research institutions, as is shown in Figure 9. Such perceptions were sought from both teacher educators and final year student teachers who in turn were probed to justify their ratings. Generally, the quality of research projects produced by student teachers ranged from very poor to very good but skewed towards mediocrity, from the teacher educators' perspective (Figure 4.1). However, student teachers viewed the CAR projects as of good quality, gleaned from a mean of 3.65 which translates to 4 (good) in the following Likert scale values: 1 – very poor, 2 – poor, 3 – fair, 4 – good and 5 – very good. The differences in the overall judgment could be attributed to disparities in what constitutes a good research project on the part of the two sets of respondents. One teacher educator respondent, *Shingi CXL20*, noted that the CAR projects produced by the generality of the candidate teachers were relatively poor. The research projects were said to be a repetition of what were submitted before by the preceding intakes. The plagiarism allegation resonated throughout the researcher's interface with the research respondents, both teacher educators and student teachers, particularly, during focus group discussions. One student teacher alleged that in some instances lecturers did not want to waste their precious time concentrating on work they trivialised from the word go. In such instances, student teachers were thus forced to customise previous submissions.

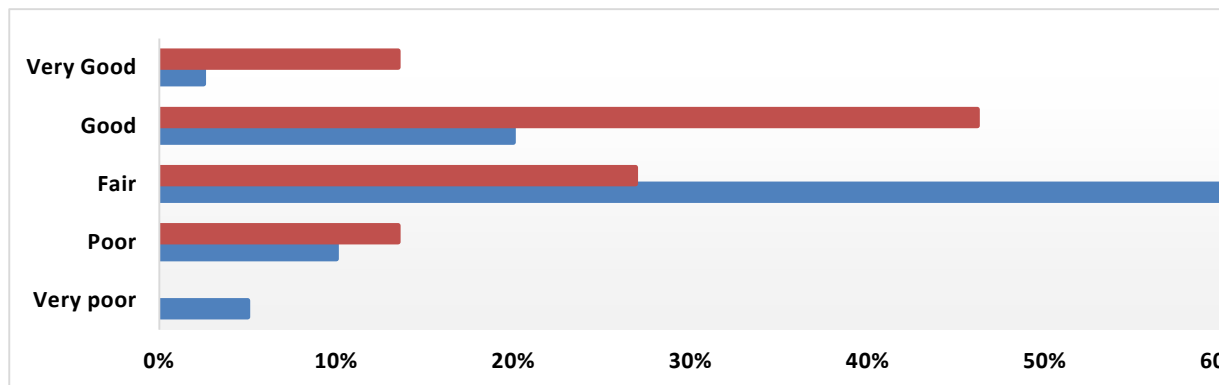


Figure 4. 2 Overall quality of the students' CAR projects

Figure 4.2 shows that the majority of the teacher educators (62.5% $n = 25$) rated the students' CAR projects as of fair quality. Only 22.5% ($n = 9$) of the teacher educators felt that the research projects were good and 15% ($n = 6$) felt that the projects were of poor quality. The lecturers' quality determination was in contrast to that of the student teachers, as has been cited above. The majority of the students (59.7% $n = 31$) perceived that the projects were of good quality. However, if information solicited from student interviewees and focus groups is anything to go by, the determination that the projects were in the mediocre category prevailed. The projects' mediocrity was attributed to the understanding that the majority of the student teachers struggled considerably to reach the minimum standard expected of them as novice teacher researchers. Supervisors were reported to have worked extremely hard to scaffold or prop them to the expected level amid serious negligence of work on the part of the student teachers. Lecturer respondents in focus group discussions noted that the CAR projects were slightly satisfactory or fair in quality since not much was expected from the student teachers whose bulk were encountering research as a curricular component for the first time. They stressed that under the prevalent teacher education circumstances, it would be expecting too much from the students to call for the production of research projects similar in quality to those produced by say university undergraduates.

One lecturer summed it up by saying:

MnM CXL11: *The students' CAR projects are slightly mediocre because most students*

simply copy and paste information that they come across in the library sources without any meaningful synthesis thereof. Many times they merely reproduce work submitted by preceding student intakes and simply alter aspects such as the research site and the grade level.

Additionally, it appeared that the college authorities were at a quandary as to how best they might curb the alleged high rate of plagiarism. The alleged ubiquitous cases of plagiarism were said to be difficult to deal with since the CAR projects submitted by previous students remained unpublished. In contrast, high quality research projects were said to be produced by a very small fraction of industrious student teachers. Such projects were testimonial of original work from teacher candidates who exhibited positive attitude towards the profession. The few CAR projects of good quality were further attributed to a small fraction of remnant dedicated teacher educators who diligently guided students through their research work. Consequently, it was those students who did not seem keen to consult their supervisors regularly who eventually struggled and ultimately produced mediocre work. However, it was also evident from the interviews held that teacher educators were equally a mixed bag. While professionally positive lecturers, that is, those who thoroughly guided their supervisees and showed positive attitude towards both classroom research and their work fostered the production of high grade CAR projects, the opposite was true of the *laisser-faire* teacher educators. In the face of such *laisser-faire* lecturers, everything produced by student teachers was passable. Student teachers (CXSGD and CYSFGD) cited many situations when all research work they submitted to their project supervisors was merely ticked correct without any meaningful feedback. However, hell broke loose in circumstances when a 'foster supervisor' was replaced by another, say due to a transfer, resignation or return from say maternity or sick leave, only to wholly condemn the students' research work. Several students cited such eventualities and regretted the seemingly glaring incongruence in the teacher educators' research knowledge.

Weak students, on one hand, more often than not, appeared to regard their research superficially or with triviality. In most instances, such students seemed to over rely on

work submitted by previous intakes, thus further underscoring the pervasiveness of plagiarism. The rampant recycling of the same research topics, according to the lecturers (CXLFGD) was testimony of the fact that most student teachers did not show mastery of requisite research skills by the time they finally graduated.

Below are some of the verbatim quotations made by teacher educators in relationship to the quality of classroom research projects produced by the student teachers:

Johnson CXL10: *The quality of the students' research projects is generally poor, if not deplorable, to say the least. This is because most of the projects are ritually done by most of the students.*

Beedson CXL15: *The projects are extremely not good. They are done just to fulfil the general requirements of the conferment of the diploma in education with far-fetched guidance from the lecturers. Data interpretation is often misplaced and critical data analysis rather missing.*

CXLI: *The research projects are generally poor since most students hardly work on their CAR projects during TP citing pressure of work, only to get serious when they return to college in their second and final residential period.*

Roadmap CXL16: *The bulk of the CAR projects are of poor quality because students do not take time in carrying out the research projects. More often than not the projects are done at the eleventh hour thus putting unnecessary immense pressure on both themselves and the project supervisors.*

CXLI: *Lack of in-depth knowledge leads students to resort to mere copying and pasting of information abound in literature thus defeating the whole purpose of making them engage in classroom research. For instance, in literature review, most students concentrate on definition of terms without reviewing any issues.*

Yokochan CXL7: *Many student teachers complete their CAR projects before full comprehension of certain critical research aspects, such as, clear delineation of statement of the problem and critical data analysis.*

MnM CXL11: *The literature review is not properly done. Usually, the student researcher's voice is absent, making it a mere jig-saw puzzle on materials read. Students tend to concentrate more on definition of new terms in literature review without reviewing the crux of the matter under investigation.*

Chibsmaz CXL18: *In most instances students tend to ignore the instructions given to them by their supervisors, particularly in linking reviewed literature to their research problems. In addition, research conclusions put forward are usually far-fetched, that is, not directly linked to the collected data in most instances.*

The above remarks substantiate the researcher's document analysis that most research projects fell far below standard on general accuracy of data. More often than not, research findings were a collection of ideas that were culled from literature, not in any way related to the collected data. Background to most research problems was rarely well articulated. Furthermore, there were glaring inconsistencies on a systematic way of referencing adopted by the students in spite of the teacher educators claiming that they stressed on the use of the American Psychology Association (APA) system. Referencing was additionally cheating abound where in-text citations did not correspond in most cases with the reference lists and vice versa. Basic project report presentation skills were not strictly adhered to. For instance, several cases were noted where the contents pages of the CAR projects were not a true reflection of contents thereof, with particular reference to pages numbering. The pages were often misplaced. To make matters worse, such glaring inadequacies were never mentioned by the project supervisors in the assessment reports, indicative of their suspicious assessment too.

4.5 Lecturers' capacity in the delivery of CAR

Several questionnaire items were constituted to decipher the lecturer capacity to handle the CAR component in teachers' colleges. This was done through parameters such as establishing the teacher educators' CAR projects' supervision load and soliciting their remarks on their related supervision experience. Student teachers in turn were asked to proffer their judgment on the quality of research tuition they got from the college lecturers in empowering them with the requisite research theory. Additionally, they were given the opportunity to judge the overall assistance they got from their project supervisors and the general impact of the exposure on their professional development. These lecturer capacity aspects are presented below, starting off with a look at the teacher educators' CAR supervision workload, the workload's satisfaction thereof and the adequacy of the lecturers' supervision prowess from the point of view of both the preservice teachers and the lecturers.

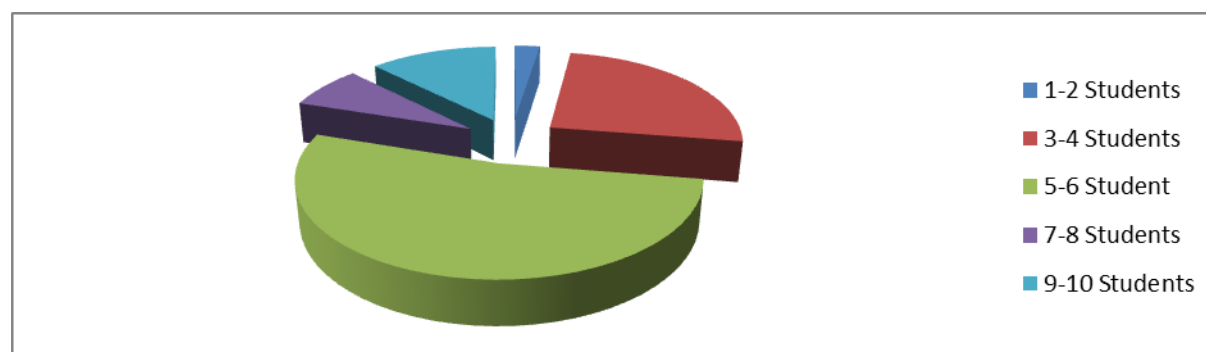


Figure 4. 3 Teacher educators' CAR supervision workload (n = 40)

The above pie-chart (Figure 4.3) shows that the lecturers' supervision load was predominantly that of 5 to 6 student teachers per lecturer. Such a load had a representation of 52.5 % (n = 21), followed by 25% (n = 10) who had 3–4 supervisees per lecturer. The means load was 5.73 as is shown in Table 4.5 below:

Table 4. 5 Lecturers' CAR supervision workload (n = 40)

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Final-Year Student Teachers Supervised in CAR Projects	40	1	10	5.73	1.961
CAR Supervision Load in Current Intakes	40	4	20	8.98	3.853

If the above representations (Table 4.5 and Figure 4.3) are read together with Figure 4.4 below, it may be deduced that teacher educators had quite a heavy CAR supervision load. This was made worse by the several student intakes that ran concurrently. This led to the seemingly abnormal supervision load of more than 10 student teachers per teacher educator at a time, with a mean of 8.98 (Figures 4.3 & 4.4 and Table 4.5).

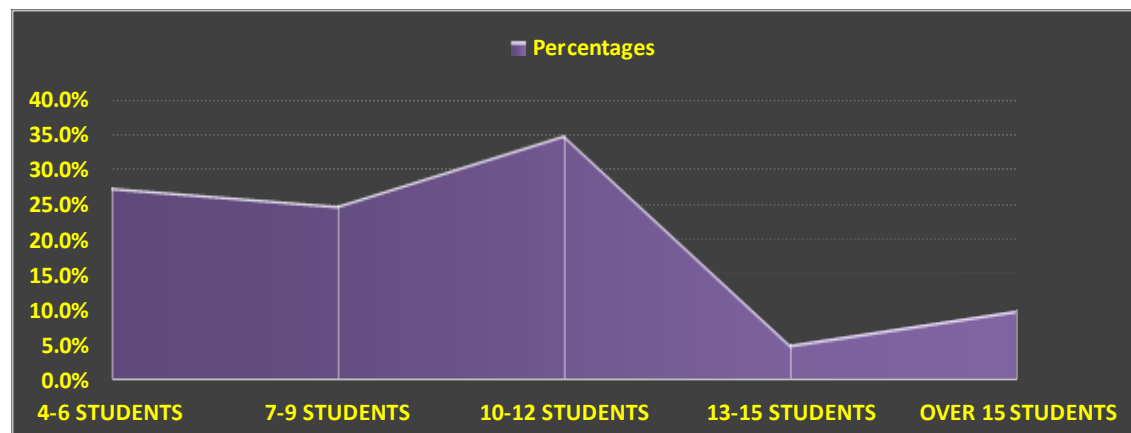


Figure 4. 4 CAR supervision workload for running intakes (n = 40)

The above Figure 4.4 shows high frequency of CAR supervision loads of between 4 to 10 students per teacher educator, with an overarching percentage of 35% (n = 14) supervising 10 students each. The number of teacher educators with between 14 to 20 supervisees tapered to an average of one lecturer. Most of such overburdened lecturers were lecturers-in-charge (LICs) who noted that they had to take on board all

students who had problems with their initial project supervisors.

One such LIC (Machuma CXL1) remarked:

The CAR supervision load is rather overwhelming because each student cohort provides more than six students per lecturer. It is made worse by the fact that supervisors will be dealing with beginners. As a Lecturer-in-charge (LIC) the load is certainly unbearable and in some instances I am compelled to take over all the problem or weak students whom my departmental colleagues would have found problematic and referred to me. I therefore serve as a buffer supervisor.

As evidence of the overburden, the said LIC had 10 supervisees in one intake. Such heavy CAR supervision certainly tends to compromise the general quality of the projects. One other teacher educator (CYLI) commented that the CAR supervision work was rather laborious and quite cumbersome since all supervisees were scheduled to return from their teaching practice schools on a particular day for projects supervision. In some instances a teacher educator handled say ten students in a day. This certainly compromised the supervisor's expected thoroughness. Consequently, it was not unusual that some glaring errors and conceptual inconsistencies went unnoticed by the supervisors thus further compromising the general quality of the research projects. The following snippets summarised the teacher educator remarks on the CAR supervision workload:

Shingi CXL20: *The supervision load is a bit too heavy given that teacher educators are involved in a plethora of other responsibilities such as preparation and conduct of tutorials and lectures, marking of coursework assignments and supervision of student teachers on teaching practice.*

CYLI: *The load is extremely high and unsustainable. The number of student teachers supervised by a single teacher educator, averaging 5 supervisees per intake is quite overwhelming. Consequently, there is need to reduce the supervision load to approximately four students per supervisor per intake.*

Mabrie: *The load is extremely overburdening to lecturers which results in inadequate and hasty supervision. This is made worse by the shoddy research lectures the students receive that leave them virtually raw in CAR preparedness.*

Johnson CXL10: *I feel that the prevalent CAR supervision workload averaging 6 students per lecturer is too much for effective supervision. It would be prudent to maintain say a lecturer to student ratio of 1:4 per each student's cohort.*

Beedson CXL15: *The supervision load is made worse by the fact that the students embark on the projects before they are clear about what is generally expected of them. This they gradually grasp as they work with their supervisors. Those who are unfortunate to be allocated to supervisors with I do not care attitude will thus suffer in silence.*

MnM CXL11: *The workload is rather manageable. However, because of the pervasiveness of lack of originality, the supervision work ends up being mere routine.*

Uyanda CYL9: *The workload is rather extremely cumbersome since most students require close supervision. To make matters worse, a significant number of them do not avail themselves for frequent supervision only to panic and crave for frequent interface when the projects are almost due.*

Sinikiwe CYL1: *The supervision load is significantly high and a bit strenuous since the student teachers work at different rates and some require very close supervision. Because of the big numbers of student teachers to be supervised, it is difficult to afford each student adequate individual supervision. At times I resorted to group supervision to avoid a situation where I would repeat myself to students over the same issues over and over again.*

Having looked at the teacher educators' CAR supervision load, the study attempted to

establish the adequacy of the associated CAR supervision, from the point of view of both the lecturers and the student teachers. Solicited responses are summarised in Table 4.6, Figures 4.5 and 4.6.

Table 4. 6 Lecturers' satisfaction with CAR supervision (n = 40)

Value label	Frequency	Percent	Valid Percent	Cumulative Percent
Not quite well	1	2.5	2.5	2.5
Slightly well	7	17.5	17.5	20.0
Somewhat well	20	50.0	50.0	70.0
Moderately Well	10	25.0	25.0	95.0
Extremely well	2	5.0	5.0	100.0
Total	40	100.0	100.0	

The above table (Table 4.6) further consolidates the teacher educators' dissatisfaction with their CAR supervision load. The frequency table has a mean of 3.15 which is representative of a 'Somewhat well' stance which represents 50% (n = 20) of the lecturer respondents. Only 30% (n = 12) expressed satisfaction above the mean and 20% (n = 8) were dissatisfied, that is below the mean. The above pattern compared fairly well with the lectures' assessment of the adequacy of performance by colleague lecturers in CAR supervision (Figure 4.5).

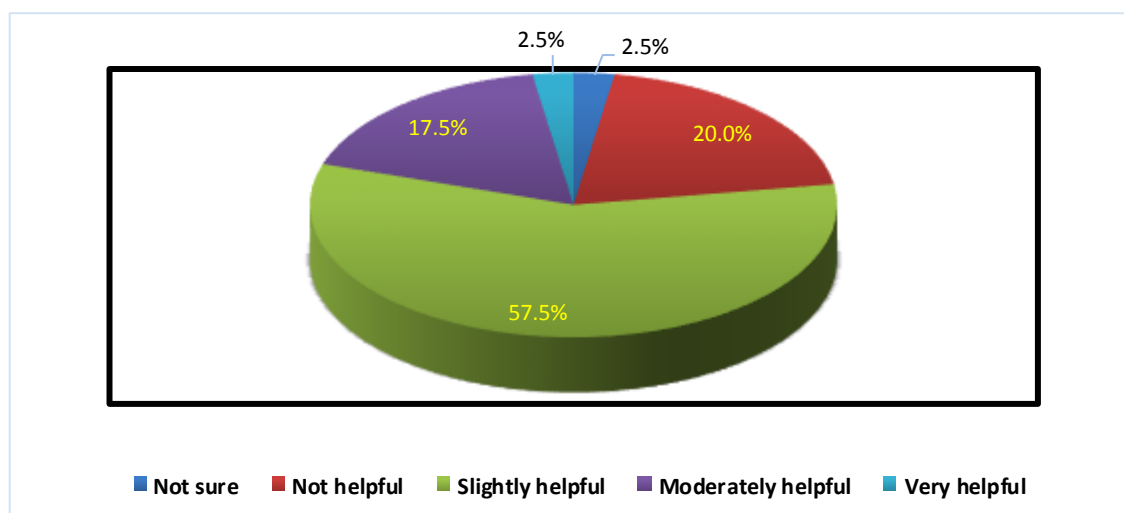


Figure 4. 5 Adequacy of CAR Supervision by College Lecturers

The above pie-chart (Figure 4.5) depicts that the college lecturers' supervision was on the whole slightly helpful (57.5% $n = 23$). Those who highly commended the supervision were just 2.5% ($n = 1$), a figure similar to that of the neutrals. The lecturer respondents who thought that the supervision was moderately helpful were 17.5% ($n = 7$). In contrast, 20% ($n = 8$) were of the view that the colleague lecturers' supervision was not helpful.

In the same vein, the lecturers' CAR supervision prowess is further depicted in Figure 4.6, below:

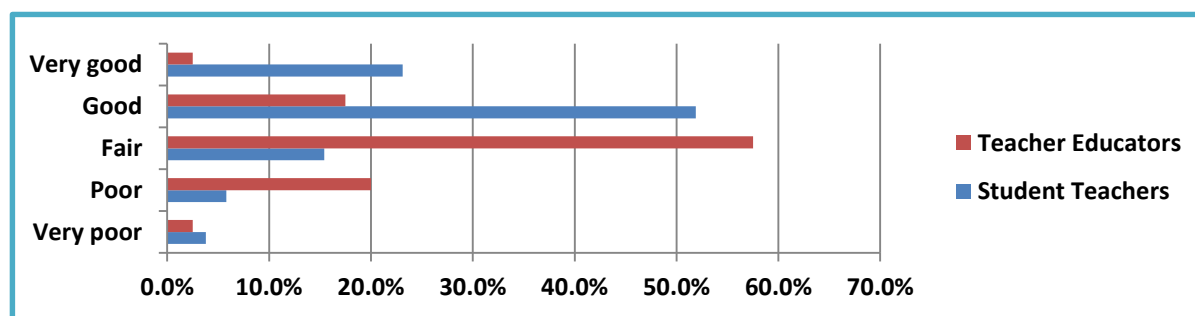


Figure 4. 6 Lecturers' Supervision Prowess

The above representation, Figure 4.6, further depicts that the performance of lecturers in CAR supervision, from the lecturers' perspective was rather fair (57.5% $n = 23$). However, the respondent student teachers saw it skewed towards good (51.9% $n =$

27) though still with room for improvement. Interviewed teacher educators underscored that it was incumbent upon every project supervisor to finish supervision of all research projects before students sit for their final year examinations. This meant that both lecturers and students were obliged to work diligently to meet the set deadlines. Additionally, lecturers were implored to handle the projects to the best of their ability to avoid a situation whereby students were eventually disadvantaged. A student's failure in CAR was said to be tantamount to that of the supervisor in turn. In avoidance of such labelling, most teacher educators were alleged to routinely assess the students' projects and ensured that they somehow got a pass mark.

In an attempt to play it safe, lecturers awarded most of the projects mediocre scores that often did not attract even the external assessors' scrutiny. One teacher educator (CYLI) retorted that most projects one found with scores in the range 50% to 60% were in real essence a failure. This implied that they would have been seemingly moderated upwards already in the initial assessment. The claim was further substantiated through the sample CAR projects reviewed by the researcher. It was observed that the assessment of the CAR was extremely subjective. In several instances, particularly at College Y, the researcher came across the same assessment scripts or marking guides seemingly duplicated by the same project supervisor for different project reports but with different achievement scores, ranging from 55% to 72%. Overall, the general performance of the teacher educators in CAR from provision of research methods lectures to projects supervision was established to be quite varied to generalise due to the disparities in a number of lecturer factors, such as, professional backgrounds, attitude towards work, lecturer burn-out and their general understanding of the expected research process. A fair number of lecturers were said to be quite good in CAR projects supervision, while a significant proportion appeared not so sure of how the small-scale research projects should be conducted, according to responses solicited from teacher educators. The mediocrity was in spite of the fact that the same teacher educators had been churning out teacher graduates annually, most of them for more than say fifteen years.

That having been said, it suffices to give an outline of snippets that give further overview on the lecturers' capacity in CAR implementation:

Machuma CXL1: It is disheartening to have observed that the bulk of the lecturers are never available for the scheduled CAR projects supervision thus forcing students to forge ahead without any meaningful guidance to talk about. This only testifies the observation that research is regarded as a mere routine component that student teachers have to go through with very little professional impact expected in their tour of duty. The 'absent lecturers' only serve to receive the final CAR product from the students for routine endorsement.

Beedson CXL15: Most lecturers seem not to have time to seriously embark on the projects supervision. Most of them discharge themselves to the barest minimum, to the level that would keep their posts whilst they find time to engage in other income generating ventures that would incentivise them more to keep pace with the prevalent poverty datum line.

Yokochan CXL7: Virtually all college lecturers are qualified for the ITEPD tutorial responsibilities that include supervision of the student teachers' CAR projects. This claim is further supported by the fact that most of the lecturers are holders of a Master of Education Degree (M.Ed.).

Kanos CYL6: However, lecturers do not have a uniform and systematic style of supervising students on CAR projects. The disparities are attributed to the claim that teacher educators are graduates from various faculties of education who happen to emphasise on different classroom research aspects at the neglect of others.

CYLI: It is regrettable to have observed that some teacher educators merely tick the students' work as evidence that they would have had sight of the work without bothering to do any proper reading, correcting, guiding or coming up with any researcher development remarks for the students.

Victorious CXL4: *Generally, the performance by a significant proportion of the lecturers is both inadequate and inconsistent. In most instances lecturers are unavailable for consultation by the students. Furthermore, the feedback is not all that informative. They resort to mere ticking of the students work without any meaningful feedback.*

One interviewee (HSM CXLI) claimed that the lecturers' performance in assisting student teachers in their projects was slightly satisfying owing to several lecturer factors and some other organisational shortcomings that need to be re-conceptualised. The respondent sited lack of in-depth knowledge on the part of the lecturers on the different research types and the nature of CAR projects they were expected to supervise. Consequently, it would be unrealistic to expect student teachers to outperform in CAR when their 'mentors' were equally not thick in their conception of CAR. The research knowledge paucity was exacerbated by the limited contact time lecturers had with the supervisees. Furthermore, low lecturer motivation could not be ruled out, particularly, in a season where the nation's public servants paydays kept on being postponed and negotiated monthly.

Meanwhile, several question items on both the teacher educator research questionnaires and interview schedules solicited data on the teacher educators' educational research appetite. This was motivated by the fact that for any curricular initiative to be a success, teachers need to lead from the front. Ironically, it would overambitious to hope for the development of reflective classroom practitioners who have passion in CAR skills and competencies when the purported mentors are not reflective themselves. Figure 4.7 is a representation of the status quo with regard to the teacher educators' publication prowess.

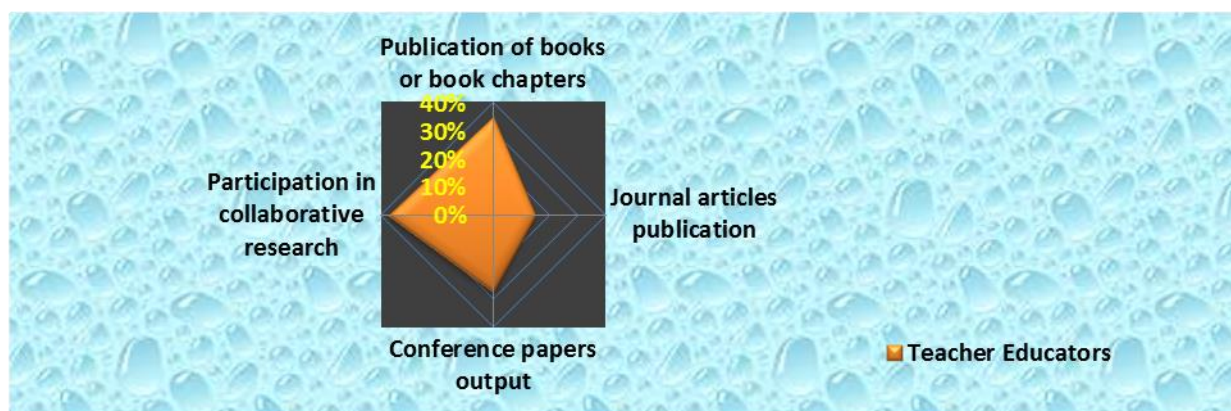


Figure 4. 7 Teacher Educators' Publication Prowess

Figure 4.7 demonstrates that the lecturers' participation in educational research was popular in collaborative research where 38% (n = 15) featured. Conference papers output popularity had 28% (n = 11). The two output lines were attributed to the line ministry's niche in the promotion of research and innovation output, particularly in Science, Technology, Engineering and Mathematics (STEM), popularised through an annual symposium for all institutions of higher and tertiary education, dubbed the Research and Innovation Output in Science, Engineering and Technology (RIO- SET). The publication of books or book chapters prominence of 35% (n = 14) could have been due to high appetite by the nation's Open University for module writers in specialist education areas. Regrettably, the worst research contribution by the lecturers was in the publication of refereed journal articles. It had a paltry percentage distribution of 15% (n = 6). The lecturers did not seem to have any formal incentive for publications.

Next to be discussed is the probable effectiveness of the CAR exposure student teachers got in their initial teacher education curriculum.

4.6 Effectiveness of CAR exposure in initial teacher education

All curricular activities are believed to be part of the ITEPD curriculum for a good

reason. However, the continual existence of every body of knowledge in the curriculum depends on its stamina to occupy the curricular space, usually drawn from its purported effectiveness. In that view, the researcher found it prudent to determine the effectiveness of the CAR exposure preservice teachers were subjected to, as is illustrated in Figure 4.8 below.

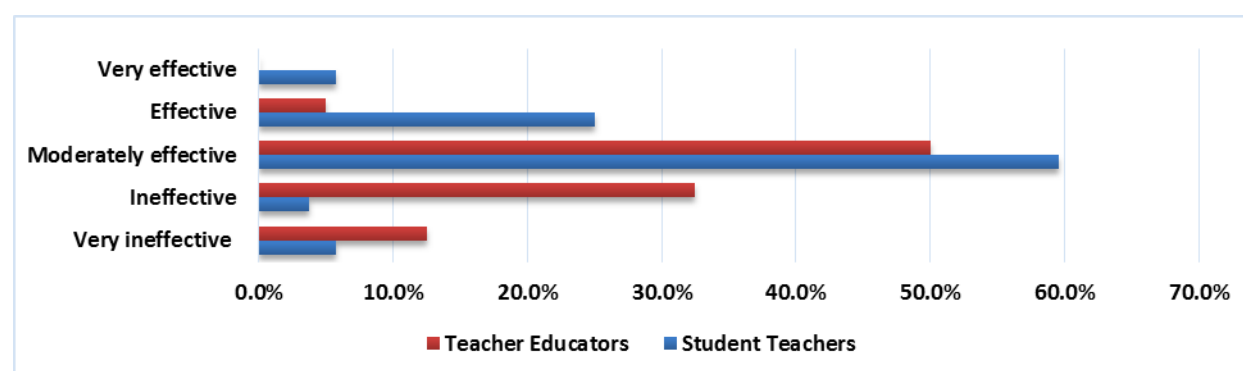


Figure 4. 8 Effectiveness of CAR Exposure

Data were solicited on the respondents' perceptions on the probable effectiveness of the CAR exposure student teachers underwent at the two teachers' colleges. Figure 4.8 depicts the outcome thereof, with the effectiveness predominantly being rated as moderately effective (59.6% n = 31) by student teachers. Only 30.8% (n = 16) of the students affirmed that the exposure was effective. In contrast, the teacher educators' responses on the same issue had a mean of 2.48 which straddles between the 'ineffective' and 'moderately effective' responses. Overall, the teacher educators' responses had a median and mode of 3 that equally suggested moderate effectiveness, in spite of the ineffective eschew. The moderate effectiveness was best summarised through the following remarks given by the respondents:

Sinikiwe CXLI: The assumption is that lecturers often avail themselves to students for CAR consultations. Additionally, it is assumed that they intervene at all stages for students to work on their CAR projects and submit them on time. However, the assumptions are highly misplaced. The general enthusiasm for lecturers in CAR leaves a lot to be desired, particularly, taking into cognisance the low lecturer moral, in

the wake of perennially low teacher educator incentives.

Uyanda CYL9: Most lecturers tend to give precedence to their actual teaching load and teaching practice supervision at the neglect of project work supervision. The projects are generally trivialised in a situation where lecturers have many more important responsibilities to tackle, such as, marking of assignments for both PSB and Academic Subjects for the several student intakes running at the same time.

The same mediocrity was upheld by the teacher educators when they remarked on their CAR supervision experiences. See below some verbatim snippets:

Johnson CXL10: Sometimes I run out of time. Most student teachers only get serious with their project work towards the submission dates in their final residential period. Besides, the students may not be totally to blame since they seem to operate under a lot of pressure during their teaching practice.

Njovi CYL2: Most students tend to take it too easy or ignore the research work for the greater part of their five terms of teaching practice and tend to only panic towards the end when the due date for the CAR projects is announced.

LC CXL13: Student teachers are encouraged to visit their supervisors each time they are done with each CAR project chapter such that they get the necessary guidance but they tend to relax and only get serious towards the end of their teaching practice.

Roadmap CXL16: Lecturers tend to put maximum effort but most of the students tend to renege on the advice given to them by their supervisors resulting in them resorting to falling back on work submitted by previous intakes.

Victorious CXL4: Students avail themselves sparingly for CAR projects consultation and in most instances their chapters tend to lose link.

Chibsmaz CXL18: *Most students do not do what is expected of them on time. As a result the work becomes quite texting for the lecturers towards the end of the second residential term, particularly, when the projects' due date is fast approaching.*

4.7 Efficacy of teacher educators' research induction

Teacher educators were asked to determine the quality of college-based professional induction they received in teacher research tuition and supervision under the following Likert scale responses: 1 – Not satisfying, 2 – Slightly satisfying, 3 – Moderately satisfying, 4 – Very satisfying and 5 – Extremely satisfying. Thereafter, they were probed to justify their ratings.



Figure 4. 9 College-based CAR induction (n = 40)

Figure 4.9 shows that the lecturer responses were skewed towards moderately satisfying. The responses had a percent of 45% (n = 18). Respondents who were below the median were 32.5% (n = 13) which is a figure one may not afford to ignore. On one hand, 22.5% (n = 9) of the respondents were of the opinion that the CAR induction teacher educators received was quite satisfying. In view of the above, it was evident that the CAR induction for lecturers was not what it should be. It was established that lecturers were subjected to a routine one-day CAR workshop annually. One respondent lamented that in her opinion, the time allocated to lecturers' continuous professional development initiatives in small-scale research was highly

laughable taking into account the significance of the curricular component. The respondent suggested that more such workshops ought to be held at teachers' colleges superintended by experts in classroom practice not mere desktop researchers who had little clue on the goings on in the contemporary classrooms.

Outlined below are some of the solicited responses:

CXL13: I was never formally inducted in CAR supervision. I heard to learn the art of research supervision from colleague lecturers during the actual supervision process. In most instances, I had to fall back on the research experience I had with my undergraduate and post-graduate research project supervisors.

CYL1: In the past five years that I have served at the college, very few research related workshops, less than three, have been conducted to formally induct lecturers on their supervision skills in classroom research.

Roadmap CXL16: There is certainly nothing like formal professional induction in CAR projects for lecturers at our college; one has to use ones' craftiness to familiarize herself/himself with how the research projects are supervised.

Machuma CXL1: Not much is done to induct new lecturers on their new key responsibility areas. The misplaced assumption is that since most lecturers are holders of Master of Education Degrees, they should be familiar with how adult learners are handled and assisted in conducting small-scale education investigations.

MnM CXL11: In most instances new lecturers do not receive any formal induction on the supervision of CAR projects. They discover the art over time as they navigate through information from colleague lecturers.

Victorious CXL4: There is no professional induction on how to supervise students in their CAR projects. The whole set up is equally suspicious as CAR is superintended by

equally novice researchers, lecturers who hardly have any research publication of repute.

Johnson CXL10: Some of the lecturers who spearhead the tuition of CAR are not conversant of the research constructs themselves. It becomes a case of a novice army general leading a troop of novices into a battle.

Njovi CYL2: Several workshops are done, especially, when new lecturers join the college and several others are held from time to time on several other curricular issues and rarely on how to best implement the CAR component. More often than not the workshops remain talk-shows that do not have operationalised action plans to run with.

One focus group (CXLFGD) noted that it was generally and wrongly assumed that all lecturers had operational capacity to supervise diploma in education CAR projects. Consequently, teachers' colleges were said to have little CAR continuous professional development initiatives meant to keep lecturers in sync with the curricular standards expected of a novice teacher researcher. As a result, lecturers who were less skilled in research projects supervision remained at sea on how to best manoeuvre, particularly those in expressive arts who were mainly non-degreed. In the absence of well programmed lecturers' induction initiatives, particularly in CAR, lecturers' competencies in research skills and related supervision remained questionable.

The above shortcomings were further substantiated by data solicited from interviews with teacher educators. The research coordinator at College Y reported that at their institution the research methods' head of subject (HOS) domiciled in PSA, coordinates the research methods section but sometimes fails to get lecturers who volunteer to facilitate on specific and problematic classroom research areas. The coordinator opined that generally, a poor research culture prevailed at the teachers' college evidenced by the teacher educators little enthusiasm for research. However, one lecturer (CYLI) retorted that he used to have much impetus in research when he was first appointed as a lecturer about fifteen years ago but the impetus dwindled

drastically over the years due to low lecturer incentives that have now become the norm. In the absence of any tangible or beneficial research push factor coupled with non-implementation of the government's policy of performance-related incentives, the lecturer stressed that most lecturers had thus resorted to acquitting themselves to the barest minimum to safeguard their jobs. Instead, they expended much of their energy offering extra-tuition to senior secondary school students, in their specialty subjects.

It was evident that college-based CAR induction was often farfetched. Lecturers basically relied on research methods and experiences they themselves had in their further studies. Thus, new lecturers required deliberate and systematic CAR induction, particularly on the focus and nature of classroom research expected of student teachers for the attainment of the Diploma in Education, in contrast to research work expected of at say undergraduate level. More often than not, the colleges' senior management alleged that the research bar was often pitched too high for the novice teacher researchers.

Having looked at the quality of the CAR induction teacher educators receive upon appointment and during serve, the next section looks at the quality of research lectures student teachers receive prior to embarking of the practical component of their research curriculum.

4.8 Research tuition quality

Respondents' perceptions were solicited on the quality of the research tuition students received through the PSA spearheaded research methods lectures. The questionnaire responses for both student teachers and teacher educators had a median of 3.15 and 2.7, respectively, which translates to 'moderately adequate', on a 5-point Likert scale of the following responses: 1 – very inadequate, 2 – slightly inadequate, 3 – moderately adequate, 4 – adequate and 5 – very adequate. It was established that on-by-one-hour research methods lecture per week was dedicated to CAR at College X, while College Y had approximately seven by one-and-half hours dedicated to research

tuition. The seven lectures were scheduled towards the end of the second term during the students' first residential phase. However, it was alleged by the focus group discussion participants that the bulk of the research lectures were too theoretical. In the case of College Y, the situation was made worse by the fact that the lectures were conducted to the entire students group of close to 350 students, conducted as mass-lectures. This meant that student teachers did not get the opportunity for any individual attention that would be required, particularly, when new research concepts were being introduced.

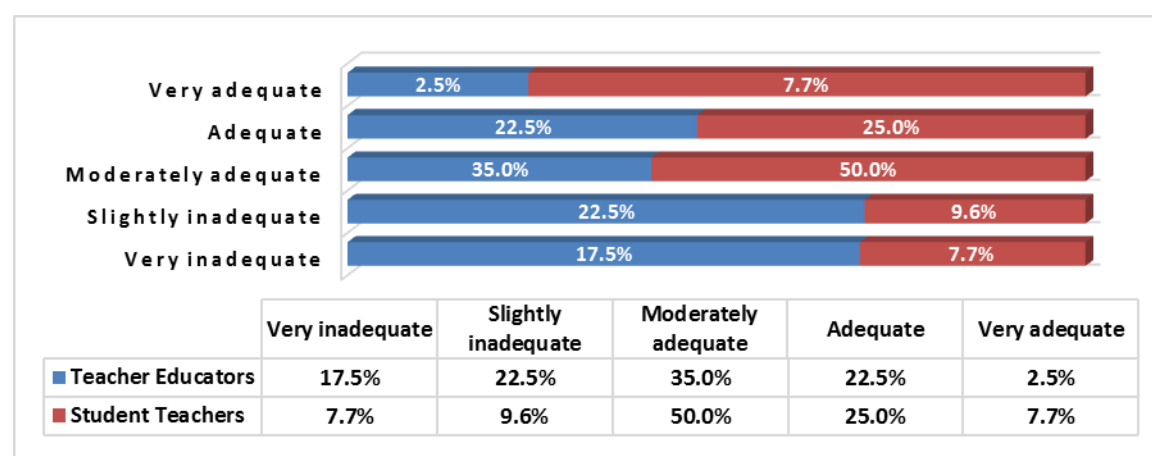


Figure 4. 10 Research tuition quality

Figure 4.10 shows the graphical distribution of the questionnaire responses, where 50% (n = 26) of the student teachers felt the CAR tuition they received was moderately adequate. In comparison, 35% (n=14) of the lecturers were of the same category. Only 32.7 % (n= 17) of the students thought the research lectures they received were 'adequate', that is, above the mean. A slightly lower percentage of the lecturers, 25% (n = 10) were equally in the affirmative. Overall, 40% (n = 16) of the lecturers felt the research theory students teachers got was inadequate. It was evident from the above data that the research tuition fell far short of the lecturer expectations. This was mainly attributed to the time allocated to research tuition which was said to be just too little. In addition, it was evident that lecturers in say main subject areas and ICT do not deliberately enhance students' understanding of research methods other than during the projects' supervision. The time paucity was exacerbated by the

allegation that the lectures were too theoretical. The ideal situation would be exposure of students to real CAR projects done by previous student cohorts. In-depth analysis of such projects to decipher the adopted research procedures, associated strengths and weaknesses, and assessment rubric could be an alternative strategy of producing CAR projects of high quality.

Below are some verbatim responses on the quality of the research lectures:

Uyanda CYL9: Some research lectures are conducted when students are in their first residential phase of the diploma in education course. These are supplemented by research workshops that are conducted during TP. Nonetheless, it is evident that the said lectures are rather nominal and the scheduled research workshops often degenerate in most cases into talk-shows on overarching TP shortcomings. They thus eventually lose their focus.

Mabrie CYL1: There is some attempt to develop in teacher trainees some mastery of research skills. However, the preparation is inadequate. The Professional Studies section is not adequately capacitated to prepare students with skills to carry out classroom research.

Johnson CXL10: The research lectures are rather poor. There are often conflicting views amongst the lecturers that tend to confuse the student teachers. Furthermore, old staff members appear resistant to change and prefer the research to be done the old way. In addition, class sizes of say four student groups or a mass lecture of more than 350 students are rather too large for effective interaction.

CXSFGD: Research methods lectures, in general, are rather shallow and superficially explained, particularly, taking into cognisance that most student teachers will be doing research for the first time. In addition, the fact that Research Methods lectures at College X are scheduled for 1530 to 1630 hours on a Friday, that is, marking the end of a busy working week, show how neglected or trivialised the subject is. All in all,

research lectures seem to be treated as an afterthought. In comparison, all the other subject areas are allocated at least a one-and-half hours lecture time per week in spite of them not having a comparable weighting of 25% on the Professional Studies continuum.

MnM CXL11: Students appear blank when they first interface with their supervisors. They can hardly come up with even suggestive research topics. This makes one doubt the nature of tuition they would have received during the research methods lectures.

Yokochan CXL7: The research lectures are generally acceptable though there is much room for improvement. There is need to give trainee teachers more collaborative research practice such that they get the real feel of the game.

Roadmap CXL16: Students are not given adequate time for research lectures. The situation is compounded by the fact that some students do not even bother to attend the lectures as they are conducted towards the end of the day when most students would be making preparations to join the rush hour for home departure.

CYLI: Quality CAR tuition is usually provided by the project supervisors during their one-on-one consultations with the supervisees and not by the PSA lecturers as is expected.

This last remark was attributed to the observation that research methods lectures were offered intermittently with preference given to PSA pedagogical lectures. Lecturers maintained that it was of little significance to crave on empowering trainee teachers with research skills at the expense of say professional ethics, classrooms management techniques and theory of education upon which instruction should be based. One lecturer interviewee further argued that the prospective teacher's core mandate was to teach and not to research. It suffices to observe that such a lecturer would espouse a situation whereby classroom research is the prerogative of the academia.

In spite of the above qualitative and statistical data that tend to suggest that not much effort was being put into the teaching of the research component leaving student teachers virtually raw in research competencies, a small fraction of the informants conceded that it was commendable that student teachers got some theoretical conception of what is research and what the research process involves prior to embarking on the real project work. The fact that some basic research skills were given to students was classified as fairly a good start of the skills expected of a baby-researcher. They are satisfactory baby-researcher steps.

4.9 Available CAR outside influences

The success or failure of any curricular initiative depends to a great extent on the capacity of the human resources partaking on it and the associated support systems and outside influences as is espoused by the Curriculum Implementation Framework (CIF) proposed by Rogan and Grayson (2003). It is the purpose of the next segment of this research report to present and analyse data related to CAR curricular influences available in teacher education colleges. Focus is made on availability or adequacy of library resources, internet connectivity and associated ICT hardware.

4.9.1 Resourcefulness of the college libraries

It was established through interface with the teacher educators and student teachers that the college libraries had e-journal facilities that were linked to the University of Zimbabwe (UZ) library. Additionally, the libraries subscribed to a range of e-journals, about 15, that included SAGE, JOST and several others through the UZ main library. However, textbooks on educational research were said to be too few to cater for all the student teachers, particularly taking into account that there were two student intakes in residence at the teachers' colleges at a time, that is, first-year and final-year students. The students, therefore, usually scrambled for the few educational research textbooks available on the library reserve section, particularly those published within the decade,

since the few textbooks were accessed on a first-come first-served basis. Students noted that most relevant resources were also defaced, with the commonly used pages having been stealthily pulled out. The qualitative data was substantiated by descriptions in Figure 4.11.

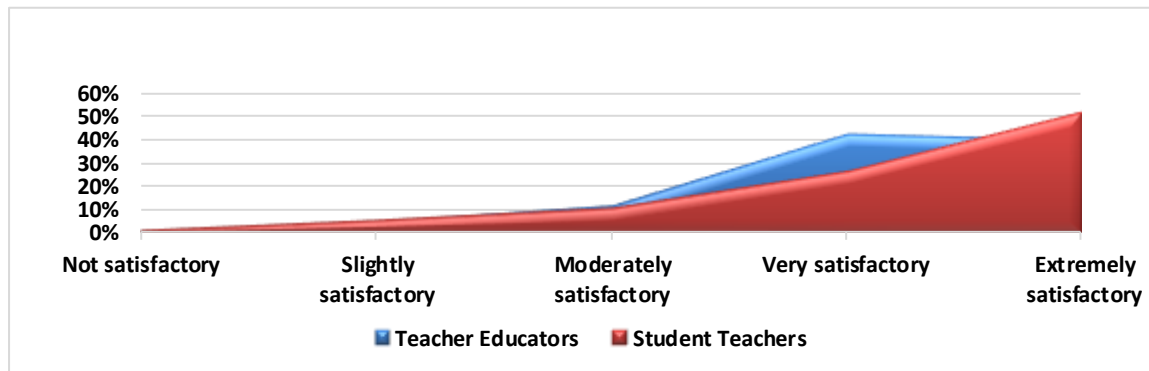


Figure 4. 11 Resourcefulness of the college libraries

Figure 4.11 depicts that the resourcefulness of the college libraries for both institutions was highly rated by both the lecturers and student teachers. The resources were rated 'very satisfactory' by 42.5% (n = 17) of the teacher educators and 40% (n = 16) perceived that the facilities were 'extremely satisfactory'. The student teachers' rating, on one hand, had a mode of 5 (extremely satisfactory) and a mean of 4.25 which was still in the affirmative regime. Approximately, 80.7% (n = 42) of the student teachers and 82.5% (n = 33) of the lecturers were pleased with the available library resources. The same was said of the colleges' internet connectivity (Figure 4.12) that had a mean of 4.12 and 4, for both student teachers and lecturers, respectively. Overall, 76.9% (n = 40) of the students and 77.5% (n = 31) of the lecturers rated the colleges' internet connectivity as good.

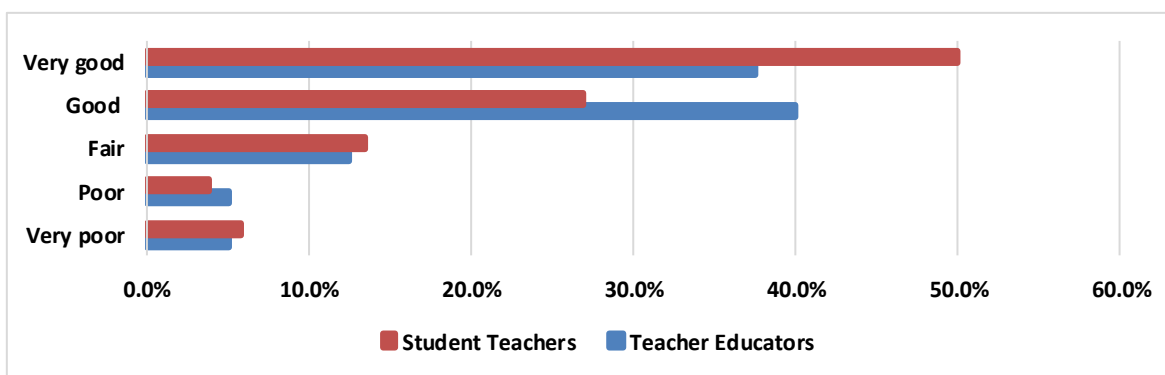


Figure 4. 12 Internet signals at the teachers' colleges

Outlined below are qualitative data extracts on responses showing participants' perceptions on the resourcefulness of the colleges' library facilities:

Johnson CXL10: *Library resources are in abundance, also stocked with relevant educational textbooks on research; coupled with reliable internet connectivity that include Wi-Fi hotspots that enable both lecturers and students to access relevant classroom research journals and a series of e-books.*

Mabrie CYLI: *Although the college library has many relevant resources, there are very few research methods books, taking into account a very high student enrolment. All current sources are usually on reserve which limits their accessibility by the students.*

LC CXL13: *The library is well stocked with the relevant educational books and students have abundant access to e-journals from the available computer laboratories. The library is fully equipped and manned by helpful librarians.*

Yokochan CXL7: *The available books and e-journals are more than enough. Additionally, there are enough computers for students to carry out any research work.*

MnM CXL11: *Our college library is rated as one of the best equipped teacher education repositories in the country by most external assessors who annually visit the institution.*

Chibsmaz CXL18: *Our college library is well resourced. It is rated as one of the best primary school education facilities in Zimbabwe.*

CXSFGD: *The college library is well equipped and is open for use by students and the teaching staff from 0830 hours to 2200hours on Mondays to Fridays. On Saturdays the library is accessible from 0830 to 1600hours. It is however, closed on Sundays and public holidays.*

Related to the above virtual world factor was the need to establish the availability and adequacy of computers to both sets of the respondents. The availability of such hardware was solicited owing to the ease of research they bring to project report writing and relative data analysis; whether one was utilising basic Excel spreadsheets, Access or some other advanced data analysis packages such as SPSS. In addition, to ensure sustainable access by student teachers of reputable library resources during TP, students proposed that teachers' colleges should provide mobile library facilities to service them from their different circuits. Alternatively, the responsible education ministry should institute community resource centers at local levels that would in turn be used by student teachers and other professionals within the vicinity for information surfing and research. Another mitigation strategy would be for the Ministry of Primary and Secondary Education to recruit and deploy CAR resource teachers in every cluster or circuit whose core mandate would be to assist student teachers and their in-service mentors with on-the-job professional development initiatives on research.

4.9.2 Adequacy of computers to lecturers and student teachers

Research respondents in this study were asked to rate the availability and adequacy of computers to both teacher educators and student teachers. Questionnaire items solicited the data through a 5-point Likert scale responses, namely: 1 – very inadequate, 2 – slightly inadequate, 3 – moderately adequate, 4 – adequate and 5 – extremely adequate.

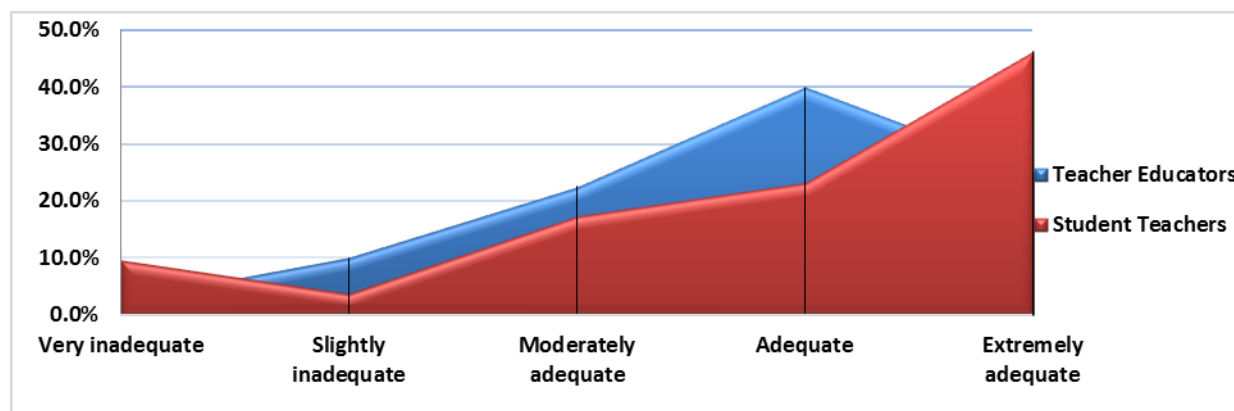


Figure 4. 13 Adequacy of computers to student teachers

Figure 4.13 shows that both sets of respondents agreed that student teachers had high access to computers at the teachers' colleges. The student teachers' responses had a mean of 3.92 and mode of 5, which meant that the availability of computers at the teachers' colleges was generally 'adequate' with a cumulative percentage of 69.3% (n = 36). Similarly, 65% (n = 26) of the teacher educators concurred that the availability of computers to student teachers was adequate. It was established that desktop computers were available to students at a ratio of approximately 1:5, respectively. Additionally, a significant number of student teachers had personal laptops. Each group of students, in addition, had a library period on which they were encouraged to make use of the computers and other library resources for professional enrichment.

However, all students and lecturers at College X were supposed to use the close to 150 desk computers in the three computer laboratories, taking turns of between 30 minutes to 1 hour. This was said to be dysfunctional, particularly, on the part of the lecturers who ended up using the laboratories sparingly, resenting to share with student teachers. In that view, CXLFGD exhorted that additional CPUs should be procured to set up a dedicated teaching staff internet café to ameliorate the tight sharing as was the case with other teacher education colleges.

One lecturer interviewee, Mabrie CYL noted:

Although the computer laboratories and college library are open from 0800 to 2200 hours every day from Monday to Friday, access to the available computers is grossly inadequate, particularly taking into account the high student teachers to computers ratio.

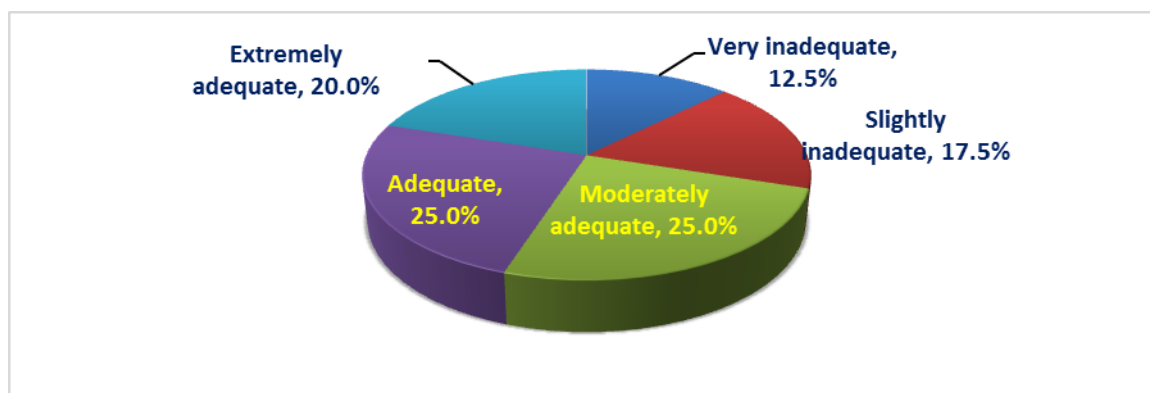


Figure 4. 14 Adequacy of computers to teacher educators

The above pie-chart (Figure 4.14), showed that the only 25% ($n = 10$) of the teacher educators rated the adequacy of computers to lecturers as adequate, with a similar proportion (25%, $n = 10$) rating their adequacy as moderate. A slightly significant proportion of the lecturers, 30% ($n = 12$) felt that the provision of computers to lecturers was inadequate. The inadequacy was attributed to the fact that only subject coordinators, that is, heads of departments and lecturers-in-charge had desktop computers provided for by the responsible authorities. Such hardware were said to be sectional units that could be accessed by all the other departmental lecturers. However, its implementation was confirmed to be rather problematic. In that view, all the other lecturers were encouraged to procure their own laptops. Tentatively, it would have been prudent to ensure that all teaching staff had subsidised laptops availed to them by the college authorities such that access to e-library facilities and available internet hotspots were guaranteed.

One lecturer (MnM CXL11) suggested:

Taking into account the cost implications to avail the proposed laptops to all lecturers, each department may also have a certain number of computers allocated to it for use by its staff members. The practice of subjecting subordinate teaching staff to surfing information from 'public computer laboratories', taking turns with students is too demeaning, to say the least. As a result, the majority of the lecturers shun the use of the public computer laboratories.

Captured below are samples of the informants' responses with regard to the adequacy of computers to both teacher educators and the student teachers:

Tasaroka CXL12: There is need to provide every lecturer with a laptop for office use just as each one of them has some office space availed to them. The observed professional segregation should be done away with as it further demotivates the already less incentivised subordinate lecturers. Alternatively, some staff computer laboratory has to be established to avoid a situation whereby lecturers take turns to alternate use of computers with students.

Harbinger CXLI: Students outnumber by far the available desktop computers. Although they are encouraged to procure personal laptops to augment the available devices, most students seem impoverished, thus unable to procure one.

Next to be presented are qualitative data on the teacher candidate's entry qualifications into ITEPD as an integral CAR determining teacher-factor, from the respondents' perceptive.

4.9.3 Teacher candidates' entry qualifications

It was noted that although it was very difficult to establish the correlation on the impact of teacher candidates' entry qualifications and success in CAR projects, it was evident that the students, particularly those with weak O-Level passes, had rather shoddy

command of the language of instruction, English. The rather poor communication skills were further testified in the absence of logical coherence of the submitted CAR manuscripts. This was compounded by the fact that research methods as a subject was relatively new to most students on their admission into teacher education.

Focus group discussions with college lecturers, however, suggested that teacher candidates with A-Level passes seemed to be better organised and enjoyed their CAR experiences more, evidenced by their being more available to consult with their project supervisors. Students who were enrolled with A-Level passes somewhat surpassed those with O-Level passes in their overall work rate and achievement levels in CAR projects, owing to the understanding that such students would have been exposed to intensive mapping, graphical and statistical techniques in subjects such as A-Level Geography and Mathematics. Consequently, the lecturers concurred that if the nation intends to produce teachers of better quality, generally, authorities have to ensure that the teaching profession also attracts the best brains. It was underscored that on initial admission of teacher candidates, there is need to desist from recruiting say people who would have attained the required five O-Level passes in five sittings and five C grades. Additionally, the teacher candidates' recruitment exercise should be made tighter and transparent such that lecturers do not facilitate the admission of their underqualified kith and kins. In that view, it would rather be too expectant to expect quality CAR projects from a mediocre pool of prospective teachers.

Seemingly in support of the above position, one teacher educator (Johnson CXL10) noted that the previous student cohorts' research projects reporting was extremely cumbersome, riddled with shoddy communication skills. She underscored that the current crop of student teachers appeared better-off in that regard owing to the observation that a significant number of them were holders of A-Level passes of up to say six points. Such teacher candidates, relatively, were said to comprehend research concepts much better compared to the previous intakes. Other respondents (CYLFGD) maintained that the basal ITEPD entry qualification of five O-Level passes that include passes in Mathematics, English Language and Science seemed to be okay. However,

they exhorted that effort should be made to equip the teacher candidates with the requisite communication skills and research competencies since most of them were meeting research as an important lifelong skill for the first time after high school. The communication skills lectures, it was suggested, should be offered by a standalone Research Methods Department. In addition, it was reiterated that there is need to desist from taking on board teacher candidates with very weak grades, particularly those obtained after say more than three sittings.

Outlined below are examples of the informants' responses with regard to the teacher factor under discussion:

Roadmap CXL16: *A sizeable number of student teachers struggle to produce logically articulated CAR projects owing to considerable deficiency in the use of English-as-a-second-language (ESL).*

Nzou CXL14: *Overall, there appear to be no positive correlation on the quality of CAR projects submitted by the students and their entry qualification to the teacher education course.*

Roadmap CXL16: *The general quality of trainee teachers on admission is slightly satisfactory as it tends to be watered down by the admission of students with weak O-Level passes, particularly those obtained after more than three sittings. Such students appear less committed when it comes to engagement in small-scale research work as is reflected by low achievement levels.*

Kanos CYL6: *Students with weak O-Level passes tend to have difficulties in coming up with meaningful and comprehensive CAR projects.*

The next section of the thesis focuses on the qualitative data solicited on the major challenges or impediments faced by the research informants in their different capacities in an attempt to realise the ultimate production of quality CAR projects. The

section, simultaneously, captures the respondents' tentative intervention strategies to ameliorate the overarching impediments.

4.10 Major CAR impediments and tentative solutions

4.10.1 Time scarcity

Both lecturers and student teachers were of the perception that the initial teacher education course in Zimbabwe is generally quite demanding, taking into account the professional responsibilities student teachers are imbued in, such as, scheming, daily lesson planning, pupils' assessment and evaluation of the daily lesson plans, among other key result areas. One teacher educator, Yokochan CXL7, expressed prodigious displeasure that students are assigned three essay assignments per subject area to work on during their five-term teaching practicum which certainly overstretches them on time to comfortably fit in the research component, several other curricular activities and requisite socialisation soft skills. It was realised that the foresaid core tasks were given much priority at the expense of the overall quality of the students' CAR projects. Project tasks were often least on the students' teaching practice priority list. Consequently, the research work was often left until the eleventh hour. However, in an attempt to meet the projects' due dates, students claimed that some project supervisors ended up spoon feeding their supervisees.

It was evident from the solicited quantitative data that time and its management appeared an overarching CAR impediment, particularly on the part of the student teachers. For instance, the researcher interfaced with the student teachers almost two-weeks prior to sitting for their final-year examinations but regrettably, quite a significant number of them had not submitted their CAR projects by then (Figure 4.15). Those who had submitted their projects had just recently done so, having surpassed the initial due dates for both institutions by close to a month. Worse still, the researcher interviewed a couple of students who promised to submit their project reports almost three days prior to the commencement of the final-year examinations. Such a scenario

was indicative of unhealthy time management on the part of the CAR stakeholders; unfortunately, the lecturers were quick to blame the student teachers for what they termed sheer negligence of work.

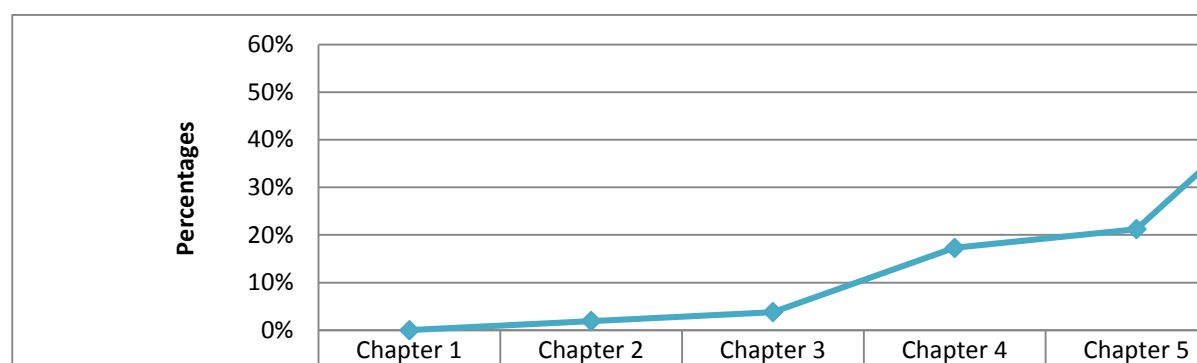


Figure 4. 15 CAR projects' submission trend (n = 52)

Figure 4.15 shows that quite a significant proportion of the student teachers (44%, n = 23) were working behind the scheduled submission date. This suggested that they did their project work under immense pressure. This also prodigiously compromised their general preparations for the end-of-course examinations. Only 56% (n = 29) of the students were through with their projects, most of them finalising on typing or binding. The remnant 44% (n = 23) were at various stages of their projects, in between Chapters 1 and Chapter 5. As an intervention strategy to the noted projects' submission trend it was suggested that the practical research projects by student teachers should be carried out from start to finish during teaching practice, that is, in the five terms of teaching practicum, such that on their return to college, the students concentrate on their major assignments in the other subject areas. Additionally, they would have ample time to prepare for their final year examinations.

In the same vein, respondents were of the view that the contact time for research methods lectures was abnormally little. Additionally, the reviewed lecture schedules were evident of some degree of neglect on the delivery of the subject by the teacher educators. In addition, LICs and HODs vehemently complained that since there were also involved in several other middle-management responsibilities, they found

themselves under tight circumstances to have enough time to supervise student teachers in their CAR projects. Coupled with the relative heavy supervision workloads plus several major assignments to thoroughly mark, lecturers lamented that they were on a tight fix with regard to time and as a result their overall efficacy as educational professionals was compromised.

In an attempt to ameliorate the foresaid inadequacies, outlined below are some of the suggested intervention strategies:

Uyanda CYL9: There is need to reduce the lecturers' teaching load by reviewing downwards the number of student intakes and their frequency. In addition, the students' teaching load while on TP needs to be reduced so as to give them time for all the other curricular duties. A situation where the entire day is already timetabled with students expected to create time is unsustainable.

Sinikiwe: Substantial lecturing time should be dedicated to lectures on research to further enlighten student teachers on the requisite CAR skills and competencies.

CYL14: More time should be made available to the student teachers such that they have ample time to relate research theory and praxis of the classroom research process prior to embarking on the individual research projects.

CYL1: The introduction of research methods must not be left until late in the second term of the first residential phase as was the case with College Y. Student teachers should start on CAR as soon as they start their first year.

Machuma CXL1: The annual student teachers' enrolment needs to be further reviewed downwards particularly at a time when newly qualified teachers are not being absorbed by the responsible education ministry. The current enrolment trends, relatively, point to mass production of teachers rather than focus on teacher quality.

CYLFGD: CAR supervision workload should be reviewed downwards, particularly in an environment where most educational provinces have reached high levels of teacher glut. As a result, the nation seems to be failing to employ a significant number of teacher graduates the teachers' colleges continually churn out in thousands, annually. In view of the foresaid it is prudent to recommend that teacher candidates' intakes be significantly reduced in line with the projected teacher need such that resourced are in turn channeled to the production of quality teachers.

Siyajika CYL18: CAR project timelines should be set well in advance and the due date made known to the students such that they comfortably navigate within the due date. This will ensure that the research work is not left until such a time it would be too late for both the supervisee and the lecturer. The current scenario where progress check is audited upon the students' return from TP appears dysfunctional as it is done late in battle. Consequently, it pressurizes students to resort to some kind of 'data cooking' in an attempt to get a nod to continue with their project work.

4.10.2 Paucity of basic classroom action research skills and competencies

It was apparent that the majority of both teacher educators and student teachers had a serious paucity of basic research skills and competencies. They seemed to lack in-depth knowledge of research concepts, such as, statement of the problem or how to articulate meaningful tenets of an abstract, research questions and related research objectives. Literature review was like a mere collection of all literature on the subject in question in spite of its fit, concentrating more on definition of terms. Additionally, there was overarching deficiency of knowledge in research statistics and statistical analysis packages such as MINI TAB or SPSS. The student teachers' computer literacy, as was gleaned from the analysed sample CAR projects, most of which were self-typed, left a lot to be desired. There was little evidence of meaningful use of graphical and statistical techniques. In some instances, students showed calculations of how they got say mean from tabulated data which was unnecessary. The observation justified one teacher educator's claim that it appeared both students and lectures ICT literacy

concentrated more on their mastery of the Microsoft Word at the neglect of say Microsoft Excel and Access. In that view, it would be demanding too much from them to exploit the ease of data analysis in research through say the use of IBM SPSS Statistics, t-Tests or ANOVA (Analysis of Variance).

On another turn, a significant number of lecturers conceded that they were not clear on what name to give to the type of research they were supervising. Everything that a teacher educator and her supervisee agreed upon seemed to carry the day and made the grade. This further confirmed the subjectivity abound in the projects' assessment. Such state of affairs called for urgent need to re-capacitate the lecturers in the wake of the dynamic nature of CAR. There was need to ensure some uniformity and objectivity on the marking guides to avoid the noted subjectivity where CAR projects that one lecturer would rate as mediocre would be rated by another as distinction material.

Outlined below are a cocktail of tentative intervention measures meant to curtail the research skills paucity:

CXLFGD: Proper and systematic timetabling is required where the action research process is well articulated through interactive lectures from start to finish. Furthermore, the research theory lectures should be superintended by specialist lecturers rather than the current situation where it is spearheaded by PSA lecturers. On one hand, student teachers should do some guided assignments on CAR projects during their first residential period such that when they proceed on teaching practice they would be better prepared to embark on the individual research projects.

CYLFGD: There is need to come up with a standardised college format on CAR implementation, particularly, project report presentation such that students are not subjected to contradictory or conflicting research knowledge. The standardization may be documented through say regularly updated ITEDP research modules. Such modules should clearly articulate the college's way of doing classroom research which should also be in sync with prevailing international best standards.

HSM CXL: *It is here suggested that the research methods component be a stand-alone ITEPD course with specialist lecturers as is the case with say Theory of Education and other PSB subject areas such as Mathematics or Physical Education. All such subjects are superintended by specialist lecturers such that one would find it a misnomer to find say a Music lecturer masquerading as a Mathematics guru.*

Mabrrie: *More practical exercises are needed before students carry out their final research studies so as to equip them with the relevant research skills at an early stage, such as, proposal writing. Furthermore, the supervisor-student ratio needs to be reasonable and manageable to allow effective and meaningful supervision.*

Victorious CXL4: *Serious and thorough teaching of research theory and practice is required, characterised by interactive research activities, such as, the use of on screen videos, group discussions and preliminary fieldwork.*

Johnson CXL10: *There is need to continuously staff develop the lecturers. It appears the research theory students are subjected to in research methods lectures prior to engagement in practical research is not in sync with what the majority of the lecturers expect from the students. This tends to further confuse the students too.*

Machuma CXL1 4: *CAR workshops should be held frequently to enhance the lecturers' CAR supervision skills and competencies. The lecturers, in turn, should be given time to engage in collaborative classroom research that would feed into the initial teacher education curriculum.*

Angelicano CYL5: *Workshop lecturers first to ensure uniformity on their comprehension of major tenets of the CAR process and minimum standards expected of the students.*

CYLI: *Some CAR synergy has to be developed among the teacher educators on what*

to expect of students in their research projects. Additionally, concise and more simplified search modules should be compiled and issued out for use by students during their teaching practicum. Such research modules should be periodically updated in a cycle of say after every five years, to keep abreast with the rapidly changing educational curricula dynamics.

CXSFGD: Decentralized CAR workshops should be organised to iron out recurrent CAR shortcomings for both lecturers and student teachers particularly during the students' teaching practice period. Such fora should also be exploited in showcasing commendable trends and CAR projects by the students. A step at a time would certainly have life changing consequences on the teacher trainees.

Fireball CYL14: The college library should stock samples of good projects that students can access, critic and build upon. Additionally, it would be prudent that students should start research projects as soon as they begin their teaching practice.

Authorium CYL7: There is urgent need to provide student teachers with enough research practice through say mock collaborative research exercises, particularly, during their first residential term. This ensures that students are somewhat informed prior to embarking on the actual CAR projects during their teaching practice.

Roadmap CXL16: Have systematic continuous professional development programmes for teacher educators in CAR projects. Additionally, there is need to decentralize students' CAR projects writing workshops to school clusters to avoid the costs incurred by students by travelling back to their teachers' college. Furthermore, it is suggested that the CAR projects be done to their finality during TP such that when students are back to college, they concentrate on course work for other subject areas and preparation for the related examinations.

Nzou CXL14: More time should be allocated to the teaching of basic research skills prior to embarking on individual research projects. Furthermore, the content covered in

research lectures should be intensive and classroom related.

Sinikiwe: Standardisation of the research project format is long overdue. There should be some synergy amongst lectures and even teachers' colleges on which research project type to adopt between the traditional or basic research and action research. In addition, colleges should institute and implement policies aimed at best dealing with over-researched topics and suspected cases of plagiarism.

Njovi CYL2: The majority of the students do not seem to read adequately around their CAR area hence related literature tends to be highly watered down.

Yokochan CXL7: Most students are computer illiterate when they enroll as teacher trainees, which make them highly incapacitated to navigate with ease through the relevant e-journals.

Zimba CXL5: As educational professionals from different universities, lecturers tend to have extremely glaring differences on how they approach the students' CAR projects.

Overall, both sets of respondents underscored the need to systematically and critically workshop lecturers on research methods. In addition, an attempt to encourage lecturers to do research would be prudent through say the award of annual CPD credit points that were research specific to all teacher educators as was the case with professions in say engineering, the judiciary and medicine. It was reported that the teacher educator key responsibility areas seemed to negate on research, thus relegating the lecturers to the educational research doldrums as mere research consumers. The assumption that research was the prerogative or core mandate of university academia was pervasive. To demystify the discordant conception, one would espouse a situation where the CAR roadmaps were well documented, reviewed and shared among the associate colleges.

Lecturers further suggested that there was need to further review the CAR demands

for the Diploma in Education and make them simpler compared to say standards expected of a university undergraduate. Additionally, there was a call to deliberately further capacitate prospective teacher educators through a post-graduate diploma qualification in higher and further education that is meant to develop in them the capacity to deal with adult learners. Such a post-graduate course would also engender in the post-graduate candidates further research skills and competences expected of them as teacher educators. The assumption that once someone attains at least a degree in education, he or she should comfortably supervise student teachers in their research work appeared highly misplaced.

The above views resonated with the argument made by one interviewee (CYLI) who underscored that there was need to continuously up-skill lectures on research methods through college-based staff development initiatives. In addition, lecturers must be further trained on how to best deal with adult learners, particularly, in the context of CAR projects supervision. The assumption that all lecturers can confidently handle CAR projects supervision is certainly erroneous. Additionally, competent lecturers drawn from other curricular areas who were known to be very good in some CAR aspects, for instance, the ICT lecturers should be incorporated in nurturing students in classroom research. For example, ICT lecturers would come handy in teaching students on how to present data using specific software, graphical and statistical techniques.

4.10.3 Funding

The absence of research funding was blamed by teacher educators for their seemingly low educational research appetite. They proposed that teacher education institutions should be offered financial assistance to do research such that teacher educators practice what they try to promote. The prevalent situation where most educational research funding was channeled to education faculties at university level was unsustainable as it did not explore the dormant research potentialities in other teacher education institutions. The practice further authenticated the public notion that proper educational research was the prerogative of the university professors, with college-

based teacher educators and their students being mere research consumers. To demystify the notion, it was prudent that more collaborative educational research funding be availed to incorporate both the university academia and teacher educators drawn from the teachers' colleges.

See below snippets on lecturers' views on CAR funding inadequacy:

Tasaroka CXL12: The responsible authority should provide some incentives to lecturers for the supervision of CAR projects. In the same vein, lecturers should earn some meaningful professional credits through publication of educational research articles in refereed journals. The earned credits should be incentive enough for one to be considered for promotion to say management posts within the college structures or that of the Ministry of Higher Education, Science and Technology Development.

CYL1: In reverence of the spirit of networking and iron-sharpens another, teacher educators require opportunities where they are funded to visit other teacher education colleges on a working-visit so as to compare notes on CAR and the general ways of doing business for the sake of their professional growth. Such academic exchange programmes amongst teachers' colleges would enhance the teaching of research in these institutions.

Besides clamor for education authorities to mobilise financial resources aimed at the promotion of classroom research, teacher educators bemoaned that the profession was generally low paying such that their zeal to put that extra effort burnt out quickly over their years of service resulting in unprecedented low lecturer morale.

One lecturer (Kanos CYL6) opined:

The current teacher educator's basic salary, upon entry, of approximately US\$550.00 per month hovers just on the poverty datum line which is far below the lecturers' educational investment and patriotism.

The above sentiments suggested that there is need to review upwards the general remuneration of teacher educators in line with both regional compensation scales and the economic performance of the country. However, still on the issue of educational funding, most respondents noted that examining the implementation of CAR in Zimbabwean teachers' colleges, although noble, results thereof should not be read in isolation of the bigger picture of the country's state of the economy. The observation concurs with assertion made by Brown-Martin (2012) that education is a superstructure that is determined to a large extent by the bedrock economy and not vice-versa. The assertion thus echoes the need to examine the extent of education funding in ITEPD programmes for each state under its economic circumstances. Teacher educators in this study lamented that it was unfair for the government to expect them to discharge themselves wholeheartedly in an economy where the teaching profession seemed to be undervalued, evidenced by the annually widening teacher pay gap. The teacher educators noted that their monthly salaries lagged far behind other professionals of similar education qualifications. To make matters worse, they did not have any compensation benefits to talk about.

As a mitigation strategy and in an attempt to revive the teacher educator moral, it is here reiterated that there was need to provide adequate salaries and benefits to teacher educators. Such an initiative would keep in check the observed upsurge in lecturer burn-out and possibly attract both teachers and lecturers of high calibre and ameliorate the prevalent mid-career turnover rates as in-service teachers and teacher educators strive to migrate to greener pastures within the region and abroad (Shizha and Kariwo, 2012). Consequently, it suffices to deduce that for CAR to be deep-rooted in the Zimbabwean ITEPD programme there is need to mobilise financial resources in the models adopted by most OECD countries, such as, Australia where funds are deliberately channeled to classroom inquiry to incentivise the teacher researchers, as was reported by Rivers (2006) and Ginns, et al. (2001). The funding strategies should also foster research-outcome dissemination by the student teachers at local-level. Where need be, teacher educators and their supervisee may need to pursue their research topics further through say further collaboration on larger research samples.

This would certainly demand that they be afforded meaningful funding and time off such that they broaden their area of influence and attain some degree of generalisability.

4.10.4 Students' proficiency in English as a Second Language (ESL)

Qualitative data from the analysed research projects showed that the students' ESL competency, generally, fell far below the language prowess expected of prospective teachers. The shoddy language eloquence made reading of the bulk of the project reports rather heavy and the flow of the supposed arguments rather cumbersome. This could have led students to blindly lift raw ideas from textbooks and research sites and paste them on their work. As a result, the critical voice of the teacher researcher was glaringly missing in most of the small-scale research projects. Furthermore, there was predominance in the mixing up of tenses in the reviewed CAR projects, riddled with several grammatical errors. This was attributed by respondents to the admission of teacher candidates with weak O-Level passes who were often alleged to be related in some way with the teacher educators' relational-web. In some instances, such underqualified teacher candidates were said to be 'recruited' through some senior government officials. As a mitigation measure to the shortcoming, it was recommended that the recruitment of teacher candidates should be transparently left to instituted college-based admission committees who should be guided by well-defined admission criteria and encouraged to serve independently (CYLFGD). In addition, it was underscored that there is need to desist from taking on board teacher candidates with very weak O-Level grades, particularly those obtained after say more than three sittings, in say three different years.

4.10.5 Negative attitude towards classroom research

Interface with lecturers and student teachers, particularly in focus group discussions, revealed that the research component was highly regarded as a peripheral component of the teacher's core mandate. This was in spite of the appreciation of the positive

essence of incorporating research into ITEPD. For instance, at College X, the research lectures the students received were 'untraceable' since they had no course-work files required even for external assessment. Neither were the lecture notes in any of the coursework files, PSA nor Distance Education. The attitudinal impediment was further noted in the publication appetite by the teacher educators. One lecturer noted that there was no push factor for lecturers to engage in research nor publish, particularly in the prevalent economic space whereby a principal lecturer's basic salary was said to be not more than \$300.00 per month from a recent 'teacher graduate' with teaching experience of less than twelve months. The disgruntled teacher educator (Victorious CXL4) suggested that some deliberate and systematic lecturers' remuneration structure should be instituted that would serve as some push factor for lecturers to habitually publish small-scale researches in journals of befitting stature which student teachers may also refer to. Generally, according to CYLFGD, the teacher educators' salary structure needed de-bunching such that it reflects one's working experience, performance and publication prowess.

Furthermore, it was also suspected that the lecturers' negative attitude towards CAR was unconsciously passed on to the student teachers. For instance, a significant proportion of the student teachers were alleged not to take their research component seriously, particularly, when they were on teaching practice. Most students, as a result, reneged on the scheduled progress-check timelines. In addition, the students did not respond sufficiently to the supervisors' comments but rather relied on information from colleague student teachers and research projects previously submitted by former students. Additionally, one lecturer (Mabrie CYLI) lamented that lack of adequate training in action research for lecturers made supervision of CAR project extremely burdensome. This resulted in lecturers reflecting negative attitudes towards small-scale research, in general. Consequently, there was evidence of inadequate teaching of CAR in the respective departments. As a result, it became the responsibility of supervisors to teach supervisees on the expected research skills which further dampened the lecturers' towards research as they felt they were doing what was supposed to have been done by some colleague lecturers, way beforehand.

As a tentative corrective measure, the idea for continuous professional development initiatives, focusing on classroom research, resonated throughout the researcher's focus group discussions and interviews with the respondents. In an attempt to circumvent the attitude shortcoming, respondents submitted that it would be prudent that the research theory component be examined as was the case at university faculties of education. They were of the feeling that such an initiative would force both lecturers and student teachers to be more serious and possibly embark on more thorough research theory. Additionally, teacher educators were vehemently rebuked from the observed trend where student teachers' projects seemed to automatically pass just to cover-up the lecturers' professional integrity and the observed suspicious supervision of sampled CAR projects. Overall, there was need for teacher educators to develop a positive attitude towards CAR in the wake of its professional utility to which they unanimously agreed upon.

Below are some snippets on the respondents' remarks and suggested intervention measures:

Shingi: Lecturers in teachers' colleges should be more committed to research and be more active in research work, evidenced by their appetite for publishing.

Sinikiwe: Besides calling for an upsurge on the contact time allocated to research methods, the success of the research component lies in the total paradigm shift on the part of the teacher educators' mind-set, taking into account their overall commitment to CAR. This should be complimented by the provision of more relevant literature and hand-outs to student teachers.

Machuma CXL1: Lecturer attitude is of much significance in determining the students' CAR achievement levels. Positive attitude precipitates joyous CAR experiences with the opposite compelling student teachers to resort to plagiarism of projects submitted by former student cohorts.

Taffie CYL3: *More interactive lecturers and workshops are vehemently recommended for both lecturers and the student teachers.*

Senator CYL15: *There is need to ensure that lecturers are encouraged to engage in collaborative research even with teachers in service so as to promote the research culture in both teachers colleges and amongst the prospective school mentors.*

Machuma CXL1: *The supervision of CAR projects should be made main-subjects based for easy monitoring of supervisees by the respective LICs. The recommendation comes on the observation that most lecturers expressed discomfort in supervising students drawn from areas they will not be lecturing on. For instance, it would be infringement of professional justice to ask a Music lecturer to supervise students researching on say reading comprehension concerns.*

As an alternative, one lecturer (*Chibsmaz CXL18*) suggested that there is need to have CAR projects done in all subject areas, such as, Theory of Education (TOE) and ICT, other than restricting students to the ten academic subject areas, namely: Art and Craft, ChiShona, English, Environmental Science, Home Economics, Mathematics, Music, Religious and Moral Education, Social Studies and Physical Education. Additionally, it was suggested that Research Methods should be a standalone subject area just like TOE, manned by specialist lecturers who are more experienced and comfortable with research themselves. Such lecturers should have the mandate to meaningfully induct colleague lecturers on how to best nurture student teachers into prospective teacher researchers.

4.10.6 Discordant student-lecturer relationship

Discordant student-lecturer relationship was a recurrent problem highlighted by a significant proportion of the student respondents in CXSFGD. It was underscored that there was need to ensure that lecturers regard student teachers as rational, adult teacher trainees who should be treated as such. Students vehemently resented being

treated as high-school students or primary school pupils (CYSI). Another relational issue brought to the fore was sexual harassment allegations. However, the students were quick to point out that allegations of sexual harassment, by their secretive nature, were difficult to confidently pin point although dismissing them out rightly would equally be false pretense. The students urged the powers that be to come out clean and publicise to both lecturers and student teachers on the standing sexual harassment policy and the associated corrective structures. One participant reported that after several consultations that had little progress, she had to cry before her male project supervisor to be allowed to move on to the next chapter. This followed the student's realisation that remarks that were being made by her supervisor were sexually suggestive. The student, drawn from the CXSFGD, retorted that the lecturer would often remark, "*After all you are not my friend!*" Each time she consulted the supervisor, the student alleged that she would be told to go to the library and read more on her topic without much constructive guidance. Even after doing the required reading, she lamented that she would still be told to go and do further reading she was proving to be infinite.

4.11 Summary

This chapter presented and analysed the solicited quantitative and qualitative data, and reported on the main findings thereof under the gleaned sub-themes. Demographic attributes of informants were analysed, together with the associated experiential backgrounds. Overall, forty teacher educators and fifty-six final-year student teachers responded to the research questionnaires; twelve student teachers and twelve teacher educators were interviewed and similar sets participated in the scheduled focus group discussions to gather the requisite qualitative data for triangulation purposes. Research results, juxtaposed to the gleaned themes and sub-themes, were presented in a cocktail of tables and graphs. Meanwhile, the next section of the discourse provides a summation of the main research findings and discusses them in sync with the sub-research questions. The interrogation is systematically and critically linked to the reviewed literature, theoretical frameworks upon which the study was underpinned and praxis.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 Introduction

The preceding Chapter Four of the study presented, interpreted and analysed data on findings of the study regarding the delivery of classroom action research (CAR) in identified Zimbabwean teachers' colleges. This chapter discussed the research findings in an attempt to decipher the predominant learning areas with regard to the implementation of CAR in the colleges of education. The discussion of the research findings was organised along gleaned themes that were matched with the sub-research questions. The reporting style was adopted in an effort to ascertain the extent to which the investigation addressed its intended sub-research questions. This was in adherence to the exhortation made by Foss and Waters, (2007) that no research warrants recognition if it fails to address associated research questions and sub-research questions. The discussion focused on major research findings generated from the preceding statistical and qualitative data, in relationship to the reviewed literature and theories underpinning the study. It should be underscored that although the themes were outlined as separate entities, it should be appreciated that they are highly intertwined, which forced the researcher to discuss the forth theme on curriculum implications associated with the research findings in-situ, in line with the adopted concurrent triangulation design. The gleaned main themes were:

- a) Teacher educators' capacity in nurturing requisite CAR skills and competencies;
- b) Predominant CAR implementation strategies;
- c) Available CAR support systems and resources; and
- d) Research findings' implications on initial teacher education and development curriculum.

The forth theme attempted to answer the forth sub-research question for the study that focused on coming up with tentative intervention measures in order to improve on the prevalent CAR implementation strategies and support systems. The intervention

measures or ITEPD curriculum implications, with particular reference to CAR implementation, were mainly based on lessons learnt by the respondents from their CAR experiences that they thought would improve on the prevalent CAR status quo in teacher education colleges. The mitigation strategies were based on the understanding that the success of any educational curriculum requires taking heed of the voices of the significant stakeholders (Cochran-Smith and Lytle, 2009; Leavitt, 2010), particularly, the coalface student teachers and teacher educators. Curriculum specialists acknowledge that policy makers ignore at their own peril, the views and practice of such shop-floor players as they are the ones who determine what really goes on in the lecture rooms and classrooms (Anderson, Waite and Nelson, 2014; Hong and Lawrence, 2011; McNiff, 2010). Consequently, informants' suggestions on tentative measures that may be adopted to ameliorate the observed CAR inadequacies were highly regarded as they ushered in the envisaged reconceptualisation and reconstruction of the prevalent CAR *modus operandi* in teacher education colleges. Ultimately, the major objective of the chapter was to benchmark the research findings with existing knowledge and practices with regard to the eclectic and interactive CAR implementation strategies in Zimbabwean colleges of education. A deliberate attempt was made to decipher the way in which the research findings affirmed, agreed or contradicted with the gleaned international best standards in the implementation of CAR in teacher education and relative professional development. Meanwhile, prior to the interrogation of the sub-themes, the researcher found it prudent to first discuss the respondents' appreciation of CAR as a noble component of an ITEPD programme, as outlined below.

5.2 The respondents' perception on the utility of CAR in ITEPD programmes

The success of any curricular initiative is mainly determined by the extent to which it is embraced by policy makers, teachers, learners and the community at large. This is attributed to the fact that all the foresaid stakeholders have a significant part to play in curriculum implementation, as is espoused by the CIF (Hattingh, Aldous and Rogan, 2007) and a myriad of change literature (Henderson, Beach and Finkelstein, 2011;

Whitehead and McNiff, 2006). Research findings revealed the research respondents' unanimous appreciation of CAR as a valuable element of any teacher education programme. The appreciation concurred with the Segal (2009) assertion made from the studied individual faculty-mediated capstone projects. The author opined that although the capstone CAR project was only available during the graduates' masters' programme, it was deemed highly valuable, if not indispensable. Consequently, not one survey or interviewee ever remarked that the capstone project they did was not useful. Such buy-in of the CAR practice was certainly a fertile ground to build upon all suggestive improvements. In consistent with the reviewed literature (Ellis, 2012; Melrose, 2001; Mills, 2014; Whitehead and McNiff, 2006) respondents to this study reckoned that initiating candidate teachers in CAR was extremely important as it fostered improved teacher quality and eventual enhancement of students' achievement levels. This affirms the assertion made by Adams and O'Neill (2006) that teachers' competency in classroom should be centered on reflection since it is only through reflection that teachers are empowered with valuable problem solving skills and competencies that are a prerequisite for the ease of doing classroom business. It also affirms the assertion made by the National Council for Teacher Education (2009:14) here-in-under stated:

Pedagogical knowledge has to constantly undergo adaptation to meet the needs of diverse contexts through critical reflection by the teacher on his/her practices— teaching, evaluating and so on. Teacher education has to build the ability in the teacher to evolve one's own knowledge to deal with different contexts based on understanding and analysis of experience.

Nonetheless, although one may appreciate a curricular initiative, it does not immediately translate to its successful implementation, hence this study, in the wake of the background to the research problem alluded to in the first chapter. It was also in tune with the assertion made by Whitehead and McNiff (2004) that theory and practice often have contradictions and it is these 'living' contradictions that researchers should explore in order to come up with alternative educational knowledge.

The following section is a thematic discussion of the main research findings.

5.3 Thematic discussion of the main research findings

5.3.1 Teacher educators' capacity in the implementation of CAR

The study's first sub-research question sought to ascertain the professional credentials of the teacher educators. This was on the understanding that teacher factor plays a pivotal role in the education achievement of any protégé in any learning environment (Deacon, 2012). A series of parameters were interrogated in the study to determine the general teacher educator prowess in nurturing student teachers with the requisite research skills and competencies. Such parameters included teacher educators' age, professional qualifications, teaching experience, CAR supervision prowess, attitude towards small-scale research and depth in understanding what CAR entails.

5.3.1.1 Teacher educators' experiential knowledge

As was gleaned from reviewed literature, it was reckoned that teacher educator experiential knowledge and capacity were central in determining the success or failure of the implementation of any ITEPD curriculum (Deacon, 2012; Johnson, 2011; Muzenda, 2014) and all its subsidiary components such as the CAR. In that view the study established that on face value, the teacher educators had the professional qualifications that were required for the efficient implementation of CAR in Zimbabwean colleges of education. Additionally, the teacher educators had the requisite maturity and experiential background which augur well with the requirements of ITEPD that a teacher educator should have educational experience which is far more than that of his protégé such that he/she nurtures the mentee (Cochran-Smith, Feiman-Nemser and McIntyre, 2008). However, the lecturers' levels of competency differed considerably, which also had some impact on the student teachers' CAR achievement levels. The researcher encountered several situations where teacher educators with lectureship experience of slightly more than five years conceded that in spite of them being holders of B.Ed., they seemed uncomfortable with the CAR process expected of pre-service teachers. Teacher educators should certainly possess

appropriate stage-specific professional training and experience. Additionally, the researcher noted with concern the scenario where elementary teacher educators, particularly in the case of College Y, were mainly drawn from educators who had teaching experience in secondary education. It was thus deduced that such lecturers lacked the methodological as well as the pedagogical skills pertaining to CAR implementation. Therefore, they were in no way masters of the CAR component they taught or supervised.

In concurrence with CAR literature reviewed, it also emerged from the findings that there were some lecturers who were underqualified to superintend in both the teaching of research theory and the supervision of CAR projects. The majority of such teacher educators were holders of Diploma in Education in the various expressive arts, namely: Music, Art and Craft and Physical Education. In addition, there were a few teacher educators (holders of say Bachelor of Arts general degrees) who did not have research project as a major requirement during their professional studies. In such a situation one wonders how the underqualified lecturers were made to competently supervise the pre-service teachers when they had no knowledge of research methods. In contrast, Alexander (2013) asserts that a lecturer in any discipline should have higher professional qualifications and experience to effectively execute one's duties. It is such competency that would enable a lecturer to marry theory with praxis, which the researcher found lacking in a few of the sampled teacher educators.

The competent teacher educators were also on risk of skills flight where Zimbabwe and the entire Southern African region have been experiencing unprecedented loss of educational professionals to universities within the continent and abroad (Shizha and Kariwo, 2012). The upsurge in human resources exodus compromised in some sense the quality of education and complicated CAR implementation in the exporting zones. Mudzielwana and Maphosa (2014) observed that lecturers with long service are in most cases more knowledgeable about the anticipated teaching approaches and techniques compared to novice or beginner lecturers. It is expected that the more seasoned a teacher educator becomes, the more conversant she or he becomes of

subject objectives, content, as well as pedagogy and other course-work demands. Nonetheless, conversely, it was the more experienced teacher educators whom the student teachers complained the most on their lack of seriousness when it comes to the supervision of CAR projects. This could be attributed to possible high lecturer burn out (Shizha and Kariwo, 2012).

5.3.1.2 Attitude of teacher educators towards CAR

According to Bullock (2004), literature acknowledges that lecturers' attitudes towards a curricular initiative serve as a major enabling or disabling factor. This implies that lecturers whose attitudes towards CAR were negative reflected in the way they related with the student teachers in the course of the projects' supervision or in the delivery of research methods lectures. Conversely, the same would be true of those with positive attitude towards the curricular aspect. Overall, research findings established that CAR was lowly regarded by most lecturers in spite of embracing its positive impact on the development of lifelong classroom practitioners. Mutseekwa, Matorevhu and Razuwika (2011) concur that teacher educators at Mutare Teachers' College in Zimbabwe seemed to trivialise both the delivery of CAR lectures and the supervision of the associated action research projects. There is need to change this attitude in most of the lecturers. There seemed to be prevalent organisational culture where lecturers believed they had to be tough on the student teachers to get the best out of them.

However, the culture seemed to have negatively affected the general student-lecturer rapport that consequently affected their performance in CAR and possibly other curricular activities. The findings were also in resonance with Chikwa's (2012) and Muzenda's (2014) assertion that the way teacher educators communicate their attitude or beliefs about a college programme plays an pivotal role on what the students think about the same programme. Similarly, the way students think about a programme has a compelling effect on their attitude towards its learning. This implied that there is need for a paradigm shift on the way teacher educators communicate their negative beliefs on CAR towards the student teachers. There is also need to induct lecturers on the

best ways of conducting themselves in relationship to student teachers who are also adults. Deliberate effort should be made in teacher educator preparation to familiarise prospective candidates with principles of adult learning as is enshrined in Speck's and Knowles' adult learning theories (Kearsley, 2010). The theories concede that andragogy, that is, adult learning, hinges on the following five assumptions: first, as people mature, they cease from being dependent but self-directed personalities. Second, with maturity, a person becomes a valuable reservoir of experience from which learning may benefit. Additionally, as a person matures, he/she becomes more prepared to learn, particularly issues that have immediate knowledge application as is opposed to postponed knowledge application (Kearsley, 2010). Last, adult learners are assumed to be intrinsically motivated to learn than being driven by external forces.

Consequently, the assumption that every lecturer qualified to be an effective CAR supervisor appeared certainly misplaced. Although most of the lecturers were university graduates, there was need for them to undergo some formal postgraduate professional education and development course on the teaching of pre-service teachers, in general, and the supervision of small-scale research projects in particular. This affirms the observation made by IALEI (2008) that teacher education is a specialist profession that requires reconstruction in order to redefine education professionals for the 21st century schools characterised by learners of diverse backgrounds. Thus, it would be justifiable to deduce that a lot still needs to be done to develop in the studied teacher educators the rightful small-scale research attitude and culture, given the commendation that teacher educators were highly mature, taking into cognisance their chronological age and trainability. Such attributes made teacher educators adaptable or susceptible to the espoused CAR paradigm shift, particularly in the prevalent digital world. Besides the noted teacher-educator factors, it was realised that the responsible authorities were paramount too in ensuring that, for instance, the teacher educators were rightfully incentivised to guarantee the profession's attraction of lecturers of high calibre. Such teacher educators would in turn nurture pre-service teachers who appreciate that teaching is an evidence-based profession as is espoused by Hammersley (2007) and Thrupp (2006), and several other ITEPD

protocols reviewed (UZ-DTE, 2019; DoE, 2007; Teaching Council, 2012; UK DoE, 2011).

5.3.1.3 The professional qualifications for teacher educators

Furthermore, research findings established that being a teacher educator in Zimbabwe was predominantly an undergraduate profession, requiring a good bachelor's degree. This was in contrast to the situation in OECD countries where a teacher educator has been professionalised to a post-graduate status (Deacon, 2012, National Council for Teacher Education, 2009). In OECD states and several other fast-growing economies such as South Africa, India and Brazil, a prospective teacher educator is expected to possess at least a good Bachelor's degree (2.1 or above) plus a Master's. Additionally, ITEPD in such economies has become the prerogative of universities and not teacher education colleges. University faculties in such economies even insist on a prospective teacher educator to have a PhD in Education or an equivalent professional qualification, plus evidence of refereed publications (Deacon, 2012).

Therefore, it would be prudent to recommend that Zimbabwe needs to benchmark its teacher educator professional qualifications with international best standards if the education system intends to have quality research outputs from its pre-service teachers who, in the long term, may translate into more effective classroom practitioners and even curriculum experts. The bench marking would in turn dictate a possible upward review of the ITEPD qualification from Diploma in Education Bachelor's Degree in Education or equivalent qualification, as has become the norm in the developed world and fast-developing economies such as South Africa (DHET, 2011; GTC, 2005; ELRC, 2005). Furthermore, to avoid a situation where research outcomes remain dormant, and unused, CAR project reports should be shared through seminars or conferences and even published on local e-journals.

It was also established that in Zimbabwe, lectureship in colleges of education was a promotional post with teacher educator candidates drawn mainly from the mainstream

primary and secondary education practitioners such as senior teachers, school heads and deputy school heads. Usually, most of the beginner lecturers had classroom teaching experience of more than a decade, which was quite acceptable taking into consideration their new key responsibility areas. However, one's progression from being a beginner lecturer to a senior lecturer, in practice, appeared automatic rather than meritocratic. There seemed to be no policy to ensure that the lecturer status was earned as is the case in most Northern Hemisphere education systems (ETS, 2003; Instance, 2008; OMoE, 2009; Westbury, 2008). As a mitigation strategy, in ensuring that teacher educators really earn their status, one would recommend that lecturers should serve a mandatory probation period of 12 to 24 months of continuous supervision and deliberate mentoring, during which they should publish at least a refereed journal article, conference paper or book chapter, in sync with the academic maxim 'publish or you perish'.

One other disturbing revelation was that the bulk of teacher educators at one of the studied institutions had teaching experience at secondary level. In contrast, the lecturers were expected to champion CAR and teacher education at primary level. Such a scenario was in contrast with the international best standard that teacher educators need to be unquestionable specialists in their area of responsibility, with proven experiential background (Indian National Council for Teacher Educators, 2009). The Council argues that the erroneous logic that seems to operate in most education systems is that one's higher qualification in the educational hierarchy would entitle one to nurture others working at the lower rungs irrespective of whether one possessed the relevant skills. However, the difficulty is often exacerbated by the scarcity of degree and post-degree programmes in primary or elementary teacher education. Consequently, Zimbabwe appears to be entangled in the inadequacy, characterised by paucity in primary education degree and post-graduate programmes, particularly those with in-depth CAR skills and competencies.

5.3.1.4 Teacher educators' publication prowess

As pointed out in the preceding chapter, the CIF dictates that teacher educators should demonstrate profound CAR enthusiasm, if the same culture is to be imparted to the prospective teacher researchers. Solicited data demonstrated that the lecturers' appetite for educational research was low, taking into consideration their research output in collaborative research, conference papers, publication of books or book chapters. The lecturers' worst research contribution was in the publication of refereed journal articles. The finding was in contrast to the expectation that lecturer competence in a study area should be a notch higher compared to that of the students if they are to remain a key determinant in the delivery of any curricular initiative (Muzenda, 2014). One would assume that competent CAR lecturers and project supervisors should be masters of their subject matter who exhibit prodigious expertise in both the subject's content knowledge and the associated pedagogical strategies.

Where low appetite for research publications was exhibited by the lecturers, one would therefore doubt their research pedigree. Such educational professionals would not be expected to present subject materials to pre-service teachers with the required enthusiasm. Furthermore, this implied that the teacher educators would not be in a position to nurture student teachers with high appetite for lifelong learning when theirs was thawed. Since student teachers cannot develop CAR skills and competencies on their own (Westbury, 2008), in the absence of teacher educators with passion in classroom research, they are doomed for stunted professional growth. However, one should hasten to caution that teacher educator capacity in curriculum delivery is a multifaceted attribute that is not determined by a single trait or strength, such as, mere possession of a particular professional qualification or high publication enthusiasm, since there are several other determinants that come into play, such as, communication skills, collaboration acumen and the ability to work in teams (Scott and Yates, 2002).

5.3.1.5 Conferment of qualified teacher educator status

Additionally, in the spirit of ‘earned teacher status’, one would recommend that teacher educators should compulsorily earn specific CPD credits annually, in relationship to CAR, whose thrust would be to ensure that they keep abreast with the rapid knowledge evolution in the research area and maintain familiarity with well-established research techniques, as is the norm in OECD countries. The observed shoddy preparedness of beginner lecturers, on one hand, could also be averted by engaging teacher educators in systematic and deliberate or intentional CAR induction programmes, as is practised in UK, Australia, Netherlands and Japan (Deacon, 2012; Westbury, 2008). In such countries, teachers and teacher educators are conferred full ‘qualified teacher status’ (QTS) after 12 to 24 months of proven teaching experience (OMoE, 2009). In most education systems the induction is often done through an identified mentor or, as is the norm in China, France, Japan and New Zealand, through acculturation, collegiality and professionalisation (Wajcikiewicz, 2005).

In wrapping up the lecturer capacity segment of the discourse, it is underscored that teacher educators’ factor is an integral component in the implementation of any initial teacher education component, CAR included (Adams and O’neill, 2006; Deacon, 2012). The educationists reckon that a reflective and committed teacher educator positively influences the student teachers he or she interacts with. The reverse can also be true of negative lecturer conduct or attitude. The inference is based on the understanding that most ideas the world shares, according to the OECD (2013), are passed on among professionals through significant others and reconstructed in alternative ways that befit the prevalent circumstances. It is thus deduced that the intention in educational practice is to constantly check whether what one is doing is really working, absence of which would mean lifelong treading on the same instructional mishaps.

Having established the teacher educators’ capacity to develop in pre-service teachers the requisite classroom research values, attitudes, skills, norms, roles and

competencies, the next section discusses findings on predominant CAR implementation strategies.

5.3.2 Predominant CAR implementation strategies

It emerged from the study that classroom research was recognised as an integral component of the ITEPD by the Zimbabwean Government and the concept was equally embraced by the college executives of the studied research sites. Consequently, student teachers were expected to undergo vigorous CAR initiation during their three-year initial teacher education programme, in the 2-5-2 model as is recommended by the institutions' articles of association with the University of Zimbabwe. The model dictated that student teachers were expected to receive research methods lectures during their first residential period of two school terms. Thereafter, they would undergo a two-day CAR refresher course during the second term of their teaching practicum, in preparation of embarking on a supervised CAR project. The outlined CAR implementation strategy was aligned with what was obtained in most ITEPD programmes globally. Similarly, the reviewed CAR lecture schedules for the two institutions, on paper, showed enough coverage of the research theory content expected of novice teacher researchers. The content compared fairly well with that profiled for beginner teacher researchers in Shortwood Teachers College (2013) and several teacher education faculties in the region and internationally (Mills, 2014). The overarching variance was on the allocated research methods contact time that had a mean of 30 hours.

Furthermore, there was prodigious variance on the general methods of implementation. The disparities affirmed the curriculum development maxim that in developing a teacher education programme, an attempt is not made to come up with a one-size-fit-all type of a method but a programme that nurtures the minimum skills and competencies in sync with the targeted curriculum content. Nevertheless, in spite of the availability of CAR syllabuses and related lecture schedules at the two teachers' colleges studied, it was established that what was planned was not usually

implemented. This confirmed the claim made by curriculum experts that education systems are not starved of lucrative blueprints but real implementation strategies (Bastick and Matalon, 2007; Ministries of Education, Sport and Culture and Higher and Tertiary Education, 2004). It also confirmed the perennial discrepancy in curriculum implementation between proposal and practice, aspiration and action (Westbury, 2008). In addition, the researcher noted that the colleges' CAR syllabuses or course profiles were too concise that they did not specify the research content in detail nor recommended any reading sources as was the norm with most internationally recognised course profiles, such as that of the Jamaican Shortwood Teachers' College (Shortwood Teachers' College, 2013). One would assume that this made it difficult for student teachers to enrich themselves during their study time as they spent most of their valuable time searching for relevant reading materials other than do the actual reading.

To further develop in student teachers the requisite sublime research skills, it was established that besides the delivery of research lectures and engaging them in some CAR workshop, student teachers were allocated to project supervisors who would in turn further nurture their classroom research skills until the production of a CAR project report. The strategy, confirmed lecturer collaboration in nurturing students as a pivotal aspect in determining the success of CAR projects as was testified in studies carried out by Hine and Lavery (2014b) and Ellis (2012). Additionally, to ensure that some close supervision of the students' progress was kept in check, an instrument was instituted by the teachers' colleges to ensure that every lecturer who visited a student teacher on teaching practice would have some insight on the student's CAR progress check. The practice was in sync with the advice given by Douglas McGregor's Theory X (Sager, 2008) which states that by nature humanity is lazy and finds comfort in less challenging situations. In view of the assumptions, the theory believes supervisees should have most of their actions supervised and monitored by a responsible individual who gives rewards or reprimands accordingly, in tune with the action's outcomes.

However, there are two opposing approaches in implementing Theory X, namely: the

'hard' approach and the 'soft' approach. The hard approach depends on close supervision, intimidation, and imminent punishment. The soft approach is the literal opposite, characterised by leniency and less strictly regulated rules in the hope for high institutional morale and therefore cooperative players. McGregor in Sager (2008) believes both ends of the spectrum are too extreme for real world application as they may lead to low-output players. He feels that somewhere between the two approaches would be the most effective implementation of Theory X. In that view, teacher educators felt the instituted on-the-go CAR supervision instrument was rather nominal as its real efficacy is yet to be ascertained, particularly, at a time student teachers continued to submit late their CAR project reports. For instance, on return to college for their second residential cycle, student teachers were expected to have done data collection and this was ascertained through an audit exercise that was coordinated by the head of subject in close liaison with the diverse CAR projects' supervisors. Since the research projects were classroom based, it was mandatory that students availed schemes of work, detailed lesson plans and children's work that bore the practising schools' official date stamps. In cases where the audit unveiled unsatisfactory progress, students were asked to regularise their status by revisiting their teaching practice schools to ensure the final lap of the CAR was dedicated to data interpretation, analysis and discussion, and overall sprucing up of the project reports prior to their submission for final assessment.

The outlined CAR implementation strategies confirmed the assertion that CAR is an arduous process that demands both proper planning and execution (Cochran – Smith and Lytle, 2009; McNiff, 2010; Whitehead, 2006) lest all effort comes to naught, particularly taking into cognisance the high demand of the ITEPD programme. The strategies further authenticated that the CAR cycle, in brief, involved problem identification; systematic data collection; reflection, which was built into practice and analysis of the research findings in sync with the espoused eclectic five-phase CAR model proposed by Brown (2002). Research findings are meant to be disseminated to enable the sharing of results with colleagues, administrators, the generality of the community and the profession (Kosnick and Beck, 2000). However, it was the

research findings dissemination aspect that appeared to be highly constrained at the studied teacher education institutions in the wake of the highly congested teacher education programme. The ITEPD research projects had relatively no audience to talk about as they shuttled between the supervisee and the supervisor and back to the supervisee upon ratification of the final diploma scores by the UZ DTE.

This was in contrast with the situation in OECD countries where pre-service teachers were given the opportunity to share classroom research outputs through say seminars, conferences or demonstration lessons coordinated by resource teachers within an educational circuit. Ellis (2012) reports that in Australia, for example, both preservice and in-service teachers were greatly incentivised for their commitment in conducting classroom research through the Australian Government's Quality Teaching Programme. Such teacher researchers were also funded to share their research outcomes with teacher colleagues in and around their employment regions. Additionally, according to Ashby, et al. (2008) and Instance (2008), pre-service teachers in most developed communities were afforded the opportunity even to publish in journals of befitting stature.

In view of the foregone, the predominant CAR implementation strategies, as was presented in previous chapter, were induction of teacher educators on CAR, delivery of research methods lectures, individual CAR projects' monitoring and supervision, and final assessment of the project reports. The strategies were consistent with those identified by Segal (2009) who studied a group of forty-five in-service teachers who had completed a Master's Degree in Mathematics Education and had been required to do an action research project. The reviewed CAR projects resonated with the individual teacher research which Segal (2009) coined the capstone project that focused on a single concern in the classroom that a student teacher identified. The problem areas were usually aimed at finding solutions to classroom management concerns, instructional strategies in various subject areas, use of instructional materials and equipment, or student learning, focusing mainly on needy students (Segal, 2009; Hine and Lavery, 2014b). The research problems were predominantly

those that student teachers believed were problematic instructional aspects in their classrooms and that they could address usually without the involvement of stakeholders outside the school, such as parents. It was emphasised that the area of concern should be within the student teacher's practice and capability. This implies that the CAR projects should deliberately avoid district-wide educational concerns that might be more complex to investigate and might require the utilisation of more financial resources and time. The practice was consistent with the advice given by Burns (2010) that in carrying out action research, student teachers should avoid investigating on concerns they can do little about, such as, looking at the overhaul reconstruction of a particular subject area syllabus. Furthermore, the author advises that research questions should be tailored within the available timeframe.

Research findings revealed that the quality of research lectures student teachers received prior to embarking on the actual research received more scorn from the teacher educator respondents, particularly those who were not involved in the delivery of the CAR lectures. They vehemently put much blame on PSA colleague lecturers for the general low quality of the CAR projects. It was established that the contact time bestowed to research methods lectures was insufficient, especially taking into consideration that the lectures were conducted in earnest towards the end of the second term during the students' first residential phase. Furthermore, the bulk of the research lectures were too theoretical, conducted mainly as mass-lectures. This meant that student teachers did not receive individual attention that would be required, particularly, when new research concepts were being introduced. The research results revealed that the research theory that student teachers received was relatively inadequate and did not meet the lecturers' expectations. The findings confirmed the observation made in reviewed literature that contact time remains the overarching curriculum implementation impediment (Burns, 2010; Hine and Lavery, 2014; McNiff, 2010; Ellis, Armstrong and Groundwater-Smith, 2010).

Also unveiled were curricular challenges associated with the compartmentalisation of the teacher education curriculum, in relationship to the idea of breaking the barriers

associated with the subject walls as is espoused by proponents of knowledge deconstruction who espouse interdisciplinary structured curricula (Bridge, 2000). Meanwhile, as an intervention strategy, it was recommended that student teachers should be deliberately exposed to real CAR projects conducted by previous student cohorts. In-depth analysis of such projects should be done through interactive lectures so as to decipher the adopted research procedures, associated strengths and weaknesses, and even discuss the associated assessment rubrics as an alternative strategy of producing CAR projects of high quality.

Having discussed findings on predominant CAR implementation strategies, the subsequent section discusses findings on support systems and resources that were available in teacher education colleges to enhance the delivery of CAR. Also discussed under the same theme are CAR implementation impediments.

5.3.3 Available CAR related support systems and resources

The third sub-research question for the study sought to ascertain support systems and resources that were available in teacher education colleges to enhance the delivery of CAR in sync with the expectations of the Curriculum Implementation Framework (CIF) proposed by Rogan and Grayson (2003). Parameters that were investigated under this theme included the colleges' library resources, availability of the requisite ICT hardware and software to both teacher educators and student teachers, CAR tuition quality and the general quality of the teacher educators' CAR supervision prowess, in relationship to the college-based CAR related continuous professional development (CPD) initiatives.

5.3.3.1 Inherent attributes of respondents supportive of CAR

The overarching support system for the study was the fact that both teacher educators and student teachers appreciated the utility of classroom research in the teacher's lifelong learning. The education community appreciation of the centrifugal role played

by CAR was in total agreement with the assertion made by Ginns, et al, (2001:129) that small-scale classroom research ‘... empowers teachers to examine their beliefs, explore own understanding of practice, foster critical reflection and develop decision making that would enhance their teaching or help them assume control over their respective situation. The study established that candidate teachers under investigation had the requisite basal secondary education, that is, five O-Level passes that included Mathematics, English Language and Science. A significant proportion of pre-service teachers had A-Level passes and others had some other professional qualifications at National Certificate and National Diploma levels, in a gamut of technical skills. In addition, some had pre-teacher training classroom experience. This confirmed that candidate teachers had some rudimentary knowledge on what teaching involves which was to be further refined during their initial teacher education.

The data affirmed that student teachers were not blank slates upon which teacher educators would unquestionably write their educational experiences (National Council for Teacher Education, 2009). It implied that the student teachers were highly trainable. They were educational capital of note that had the capacity to learn, provided they were afforded the rightful support systems. Additionally, pre-service teachers need to be taught in line with the dictates of the various theories of how adults learn, as was explained in section 5.3.1.2. According to McNiff (2010), in agreement with the provisions of Rogan and Grayson’s Curriculum Implementation Framework, it is such support systems that enable pre-service teachers to further develop what they have learnt and also generate new knowledge. Additionally, the National Council for Teacher Education (2009:8) notes that in view of the complexity of teaching as a profession, it is prudent that “...the entire enterprise of teacher education should be raised to a university level and that the duration and rigour of programmes should be appropriately enhanced.” The recommendation comes against the background that keeping the basal entry qualification for ITEPD at 5 O-Level passes was compromising on the ultimate quality of the resultant teacher. Maintaining teacher candidates’ admission at 5 O-Level passes was promotion of the infiltration of

mediocre teacher candidates who view teaching as one of the few professions with a long security of tenure even in instances they do not deliver to their best.

Meanwhile, research respondents reckoned that classroom research is a genre of the continuous professional development (CPD) process that fosters and develops one's lifelong teaching career. The appreciation underscored the teacher educators' acknowledgement of the significance of teacher introspection in one's practice. It is through such reflection in action, according to BERA and RSA (2014) that education practitioners gain in-depth understanding of what they already know and discover more polished teaching strategies which are the kernel of CAR. The foresaid appreciation was complimented by the responsible authorities' provision of the requisite educational materials, as is subsequently explicated.

5.3.3.2 Available library resources

It was established that the college libraries had e-journal facilities that were linked to the University of Zimbabwe (UZ) library. Additionally, the libraries subscribed to a range of e-journals, about fifteen, that included SAGE, JOST and several others. However, textbooks on educational research were noted to be too few to cater for all the student teachers, particularly taking into account that there were two student intakes in residence at the teachers' colleges at a time, that is, first-year and final-year students. The students, therefore, usually scrambled for the few educational research textbooks available on the library reserve section, particularly those published within the decade, since the few textbooks were accessed on a first-come first-served basis. Students noted that most relevant resources were also defaced, with the commonly used pages having been stealthily pulled out.

The sound availability of library resources made it possible for students to access contemporary educational journal articles and recent educational publications. However, it was observed that the availability of the library resources may not automatically translate to their maximum use. This substantiates the observation made

by the University of Sussex (2011) that commitment to improve quality education in SSA has focused mainly on infrastructure, for example, classrooms, learning materials and equipment and the supply of teachers in large numbers. Conversely, the SSA education systems tend to focus less on how teacher education can foster the development of the requisite teacher competencies, such as CAR, that seem to matter more in meeting the needs of students in the classrooms. Furthermore, the study established that some students expressed discomfort in the use of the e-library or surfing information on the internet. Such pre-service teachers ended up resorting to scrambling for the few research texts that were on the libraries' reserve section. The same could be said of some lecturers who appeared slow in embracing the library's technological innovations. They remained stuck to the old research concepts and methods of operation. This confirmed the pervasiveness of inertia among teacher educators whom one expects to be more experienced, if one was to consider just their length of service (Muzenda, 2014). It justified the call for both student teachers and teacher educators to embrace the fast-evolving research skills and competencies. One would also expect more interactive interface between the supervisor and the supervisee in spite of the geographical distance through the use of say emails and even the WhatsApp platform. Deliberate effort should be made to engender in the lecturers and student teachers the fast evolving information and communication technology. If readily embraced it would certainly ease the process of doing classroom research and all educational business.

Taking into account the availability of desktop computers and internet connectivity to both sets of the respondents, the study established their sound availability. These were augmented by laptops, tablets, notepads and smartphones which student teachers were encouraged to procure to ease their internet connectivity. The commendable investment by central government on library resources and ICT equipment confirms the exhortation made by Deacon (2010) that ITEPD is a public good that demands considerable investment by central government and all significant stakeholders if all its components, CAR included, are to benefit.

5.3.3.3 The quality of CAR projects supervision

One support system that the student teachers highly recommended was the quality of supervision they received from their project supervisors during the one-on-one consultations compared to the hurried research methods lectures to which they were subjected by the PSA lecturers. This was attributed to the observation that research methods lectures were offered intermittently with preference given to PSA pedagogical lectures. This showed that in practice, rather than in thought, lecturers maintained that it was of little significance to crave on empowering trainee teachers with research skills at the expense of professional ethics, classrooms management techniques and theory of education upon which instruction should be based. They felt that the prospective teachers' core mandate was to teach and not to research. Classroom research in essence was viewed as the prerogative of the academia. The practice concurred with the conflict theorists' assertion that a teacher does not require formal, professional preparation that is espoused through implementation of CAR in ITEPD (Hansen in Cochran-Smith et al., 2008). The critics argue that teachers simply need to know the basics of the subjects they teach, how to keep order in the classroom, how to get along with pupils and the larger community and how to abide by the administrative regulations. The argument claims that a sufficient secondary education provides candidate teachers with requisite subject matter knowledge.

Nonetheless, the progressive camp of educationists upon which CAR hinges, holds contrasting perspectives. Non-conflict educationists such as Rivers (2006) concede that ITEPD is not a recipe-type endeavour where teachers are provided with a toolkit to use in the subsequent three to four decades that mark their teaching life. They perceive teaching as an evidence-based profession whose effectiveness is based on the teachers' degree of reflectiveness. It is believed that teaching is an intricate profession that has more to it than the foresaid technical skills. According to Hansen in Cochran-Smith et al. (2008), teachers need to consider the psychological, social and cultural context of the learners, the logical aspects of the subject matter and even the politics of parent-teacher, teacher-administrator, and teacher-teacher relations in the

school setting. The author hastens to advise that capacitating pre-service teachers with CAR skills and completeness does not aim to make teachers philosophers, theorists or some kind of public intellectuals but rather make them appreciate why they should teach the way they teach, the significance of paying attention to the different needs of the learners and several other education stakeholders. In recognition of the centrality of teaching, advocates for teacher professionalism stress the need for teachers to extend their sphere of influence into teacher research. This is on the understanding that teachers, because of their daily contacts with learners, are in the best position to make critical decisions about curriculum and instruction (Altrichter, et al. 2008; Burns, 2010; Casey, 2012). However, in spite of the acknowledgement of CAR as a pivotal component of ITEPD by both teacher educators and pre-service teachers, the implementation thereof remains problematic. It was evident that the study area has strong potential for further research to provide additional worthwhile insights on the education systems' quest to produce quality teachers and in the process improve on the overall student's achievement rates.

Furthermore, the mediocre quality of research tuition student teachers received in professional studies' research methods lectures was substantiated by the few lecture notes that were retained in the students' PSA coursework files. Overall, it was evident that most of the student teachers did not give themselves ample time to edit or proofread their project reports prior to submission for final assessment. This conflicts with Burns' (2010) advice that among the formal writing requirements, prior to submission of an action research project report, one is expected to do a thorough spell-check and proof-read the report. Where necessary, use of an independent editor is advisable. In addition, a researcher is expected to accurately list all the references in the text that he or she has utilised. The reviewed project reports were often tainted with numerous typographical and grammatical errors. This was even noted on project reports written in the students' indigenous language (ChiShona). Worse off, the project supervisors, in most instances, seemed to overlook the glaring errors. Such situations further substantiated the absence of entrenched research culture at the teachers' colleges which was reflective of the teacher educators' publishing knowledge, as

alluded to previously. The prevalent research culture or institutional ethos confirmed that curriculum implementers, in this case, teacher educators, either support instructional innovations or provide sanctions (Rogan, 2007), as the sole custodians of what goes on in the lecture rooms. It further confirmed that some deliberate monitoring and supervisory services are required for successful CAR implementation. Leaving teacher educators to work independently in CAR supervision without strict form of internal supervision raised the question of who guards the guard (Shumba, 2010; Chisholm, 2007) and compromised the overall quality of the research projects, if not the quality of the entire ITEPD. Overall, the quality of research projects produced by student teachers ranged from very poor to good but skewed towards mediocrity, from the teacher educators' perspective. The majority of the teacher educators, however, raised concerns that CAR projects produced by the generality of the student teachers were relatively poor. Quite often, the research projects were alleged to be a repetition of what was submitted before by the preceding intakes. The plagiarism allegation resonated throughout the researcher's interface with the research subjects.

Research findings further showed that most research projects fell far below standard on general accuracy of data. The research findings were often a collection of ideas that were deduced from literature, and not in any way related to the collected data. Background to most research problems was rarely well articulated. Furthermore, there were glaring inconsistencies on referencing styles adopted by the students in spite of the teacher educators claiming that they stressed on the use of the APA (American Psychology Association) style. Additionally, referencing was cheating about where in-text citations did not correspond in most cases with the reference lists and vice versa. Furthermore, there was lack of strict adherence to basic project report presentation skills. For instance, several cases were noted where the contents pages of the CAR projects were not a true reflection of contents thereof, with particular reference to pages numbering. The pages were often misplaced. This was quite disturbing particularly in this technology abound era where Microsoft Word may be used to automatically insert tables of content, table of figures, table of tables and even indexing utilised acronyms and abbreviations. This showed that the student teachers

need to be intentionally nurtured to proficiently make use ICT for their own professional development (National Council for Teacher Education, 2009).

Sadly, the supervisors never stated these glaring inadequacies in the reviewed assessment reports, indicative of both their inefficient assessment and possible incompetency in the use of the said computer skills. These inadequacies resonated with Hansen's (2006) research which states that when institutions of higher learning fail to produce the desirable outcome, the causes mainly lie with the quality of teaching provided. The quality of teaching in turn is buttressed on the quality of teacher educator training the lecturers would have received. Consequently, one can deduce that if university courses fail to develop lecturers with the relevant CAR knowledge, the deficiency will in turn impact negatively on the delivery of the research component to pre-service teachers. The assertion seemingly resonates with the ELT that stresses that teacher educators can only develop in protégé teacher candidates what they themselves would have mastered.

That having been discussed, the report now turns to the interrogation of the teacher educators' CAR reports' supervision or evaluation prowess. This comes against the background that curricular assessment usually determines students' academic fate. In that view, all assessment is expected to be done as objectively as possible (Weaver, 2006 in Muzenda, 2014).

5.3.3.4 General assessment of the students' research projects

Research findings unveiled that the assessment of CAR projects at the research sites was extremely subjective, contrary to the espoused objective values underscored by Rogan and Grayson (2003) that student assessment should desist from being mere formalistic, that is, aimed at fulfilling a particular routine requirement. The reviewed CAR projects' assessment records were tainted with incidents of favouritism, where some student teachers were awarded marks higher than the expected, in the context of the reviewed shortcomings, and vice-versa. The teacher educators' conduct was

thus in contrast to that expected of professionals as was explicated in reviewed literature. The literature revealed that feedback or assessment should be about the assignment or test not the student or the relationship between the student and the feedback supplier or lecturer (Swaffield, 2008). As a result, lecturers should devote much of their energy and time to helping students to understand not only where they would have gone wrong, but also areas they need to improve on or retain. This means that feedback is required even when a student does well in one's work such that one understands the strengths of the work and how he or she can build upon it.

In addition, research findings revealed that the reviewed research projects' marking rubrics were over condensed to foster objective assessment. Furthermore, it was evident that some of the supervisees' CAR experiences were quite nightmarish as is illustrated below. Several student teachers, for example, reported real nightmares in going through their projects particularly those whose project supervisors alternated during their study. As was alluded to in the data presentation section, the student teachers reported that their 'foster supervisors' in most instances would merely tick their work suggestive of commendable progress. However, on return or appointment of the 'actual supervisor' or promoter, usually at a time the student was almost complete with one's project they were asked to almost start afresh. Such absolute condemnation clearly testified that all was not well on the teacher educators' general calibre or depth of knowledge with regard to the action research process, or both. Such learning experience was quite frustrating as the students felt misguided and had their ample study time put to waste.

Consequently, pressure was put on the students to complete the project work late and at the same time expected to adequately prepare for their final-year examinations. The experiences Muzenda's (2014) observation that students in institutions of higher learning she studied expressed dissatisfaction in the manner in which they were assessed. In that view, it should be appreciated that all work that students submit for assessment is an academic investment that deserves to be objectively assessed. In addition, from the researcher's point of view, student teachers should be systematically

nurtured and errors that may appear foolhardy or idiotic explained to them without ridicule or contempt. Furthermore, CAR roadmaps in use should be constantly revised and owned up by the college lecturers to avoid glaring conflict on classroom action research advice given to the students. CAR modules, as was underscored by the students, should be written in simple or low-level language to foster easy comprehension. Students resented modules that appeared copy and paste versions of the intricate educational research textbooks that befit post-graduate students authored by the contemporary John Dewey's.

5.3.3.5 College-based continuous professional development initiatives

Meanwhile, an examination of the college-based CPD activities showed considerable scarcity or paucity thereof. Teacher educators' responses were skewed towards moderately satisfying. More often, lecturers maintained that they were subjected to routine one-day CAR workshops annually. They lamented that the time allocated to lecturers' continuous professional development initiatives in small-scale research was highly laughable taking into account the significance of the curricular component. The respondents suggested that more CAR workshops ought to be held superintended by experts in classroom practice not mere desktop researchers who had little clue on the goings on in the contemporary classrooms. The findings resonate with calls made by most educationists for systemic CPD initiatives in virtually all education components such that teacher educators perfect themselves on learning how to teach, determining what to teach, learning to work with student teachers, developing self-efficacy and developing skills on how to mentor colleague teacher educators (Darling-Hammond, Wei and Andree, 2010; Maphosa, 2010, Muzenda, 2014, Mwanza, 2014). As an exhortation, Bennett and Gitomer (2009) advise that CPD initiatives should go beyond traditional approaches and build more on lecturer lifelong-learning communities that enable lecturers to help one another discover new strategies on how to improve on their practice or delivery of subject matter. It is also maintained that once a teacher educator improves on being self-critical, the probability is high that the practice will cascade down to the student teachers (Whitehead, 2006; Cochran-Smith and Lytle,

2009).

Overall, the general performance of the teacher educators in CAR from delivery of research methods lectures to projects supervision was established to be quite varied to generalise due to the disparities in a number of lecturer factors, such as, professional backgrounds, attitude towards work, lecturer burn-out and their general understanding of the expected research process, several other external factors such as available CAR resources and support systems. Nonetheless, the CAR implementation in identified Zimbabwean colleges of education was tainted with a bouquet of impediments. The shortcomings may be summarised as time inadequacy; high CAR supervision load; CAR knowledge paucity; insufficient funding; low ESL prowess by the student teachers and relative negative attitude towards classroom research, mainly by the teacher educators. The impediments were similar to those singled out in reviewed literature by authors such as Burns (2010), Hine and Lavery (2014) McNiff (2010), Ellis, Armstrong and Groundwater-Smith (2010) with variations however on their magnitude, depending on the educational milieu and the country's gross-domestic product index. Discussed below are the overarching CAR implementation impediments.

5.3.4 Overview of CAR implementation impediments

5.3.4.1 Time inadequacy

Research respondents were of the perception that the initial teacher education course in Zimbabwe was generally quite demanding, taking into account the professional responsibilities candidate teachers were imbued in, such as, scheming, daily detailed lesson planning, pupils' assessment and evaluation of the daily lesson plans, among other key result areas. The time scarcity concurred with the observation made by one respondent in Ellis (2012: 285) who states, "For the ordinary teacher at the coalface, I think they are grossly overworked that they barely have time for anything, let alone the reflective (CAR) cycle." This consolidates the assertion made by Neapolitan (2000)

that classroom practitioners are believed to be already overburdened professionals, taking into consideration the high volumes of marking loads, lesson preparations, lesson evaluation and the administration of remedial tuition to deserving learners. Research findings revealed that pedagogical core tasks, particularly during teaching practice, were given much priority at the expense of the overall quality of the students' CAR projects. Teacher research, no doubt, required more rigour, space and time which appeared rather scarce. Consequently, the ITEPD research work was often left until towards submission. As a result, most student teachers completed their project work under immense pressure. This prodigiously compromised their CAR achievement levels and the general preparations for their final-year examinations.

It was evident that the contact time for research methods lectures was abnormally little. Having less than 14 hours of research theory exposure and at the same time expecting student teachers to benefit from the experience was a misnomer. The time limitation was exacerbated by reports that more often lecturers would not turn up for the scheduled lectures upon which one may deduce some attitudinal symptoms that required immediate intervention. To compensate for the lost time, some PSA lectures had to be sacrificed towards the end of the first residential period which was not adequate for the ITEPD curriculum. Additionally, the reviewed lecture schedules were evident of some degree of negligence on the delivery of the subject by the teacher educators. In addition, LICs and HODs vehemently complained that since there were also involved in several other middle-management responsibilities, they found themselves under tight circumstances to have enough time to supervise student teachers in their CAR projects. Coupled with the relative heavy supervision workloads, as explained below, plus several major assignments to thoroughly mark, lecturers lamented that they were on a tight fix with regard to time and as a result their overall efficacy as educational professionals was compromised.

5.3.4.2 High CAR supervision load

Research findings revealed that the CAR supervision load was quite heavy. The

lecturers' supervision load was predominantly that of five to six student teachers per lecturer. The load was worsened by that several student intakes ran concurrently. In some isolated instances there were seemingly abnormal supervision loads of more than 10 student teachers per lecturer for some teacher educators. Most of such overburdened lecturers were lecturers-in-charge (LICs) who noted that they had to take on board all student teachers who had problems with their initial project supervisors. Such heavy CAR supervision loads certainly compromised the general quality of the ultimate research projects. Consequently, it was not unusual that some glaring errors and conceptual inconsistencies went unnoticed by the supervisors thus further compromising the general quality of the research output. The high CAR supervision load was in contrast with the situation obtaining in most high achieving education systems where pre-service teachers' CAR supervision was not the sole responsibility of teacher educators but was shared with mentors at the identified professional schools where the student teachers would be serving their internship (Darling-Hammond, Wei and Andree, 2010).

5.3.4.3 Paucity of basic classroom action research skills and competencies

It was apparent that the majority of both teacher educators and student teachers had a serious paucity of basic research skills and competencies. They lacked in-depth knowledge of research concepts, such as, statement of the problem or how to articulate meaningful tenets of an abstract, research questions and related research objectives. Literature review was mere collection of all literature on the subject in question in spite of its relevance, concentrating more on definition of terms. Additionally, there was overarching deficiency of knowledge in research statistics and statistical analysis packages such as MINI TAB or SPSS. The student teachers' computer literacy is quite questionable. There was little evidence of meaningful use of graphical and statistical techniques. Student teachers were not familiar with the basic research skills such as the automatic creation of table of content or table of figures using Microsoft word.

However, a significant number of lecturers conceded that they were not clear on what name to give to the type of research they were supervising. Everything that a teacher educator and her supervisee agreed upon was acceptable. This further confirmed the subjectivity abound in the projects' assessment. Additionally, this also confirmed Rogan and Grayson's (2003) observation that curriculum implementation is not an all-or-nothing position, hence the diverse ways and levels on curriculum implementation. It follows that even in CAR implementation, there is no one-or-nothing way of its implementation though some good practices should emerge that teacher educators agree that they foster reflective practice and teacher research in general.

5.3.4.4 Funding

Adequate funding of any curricular initiative plays a significant role in determining its success. This explains why ITEPD and CAR is most OECD member states are deliberately well funded, mainly from the fiscal. Such states regard education as a public good. For instance, Ellis (2012) reports that the Australian Government's Quality Teaching Programme had a considerable effect to the conduct of classroom research as teacher researchers were handsomely incentivised for the commitment. Such teachers were also funded to share their research outcomes with teacher colleagues in and around their employment region. In other high achieving nations, such as, Finland, Sweden, Norway and Netherlands, according to Darling-Hammond, Wei and Andree (2010:2), "... candidate teachers ...receive 2-3 years of graduate-level preparation for teaching, completely at government expense, plus a living stipend." In Sweden, a professional development programme called 'Lifting the Teachers' was instituted in 2007. The programme, according to Darling-Hammond, Wei and Andree (2010, offers a grant to both in-service and preservice teachers to undergo a tuition-free compulsory CAR projects. In the case of in-service teachers, they are also offered a support of 80% of a teacher's annual salary. In developing economies such as South Africa, candidate teachers are provided with several scholarship and bursary opportunities to exploit to ensure that they concentrate on their teacher education and all its demands, CAR included (Rossouw, 2009). According to the DBE (2010), university fees in South

Africa vary from institution to institution but are in the range of R45, 000 and R75, 000, covering tuition fees, accommodation with meals and textbooks. The studies may be funded via bursaries, such as, the Funza Lushaka Bursary Programme; a Provincial Education Department (PED) Bursary; an Education Training and Development Practices – Sector Education and Training Authority (ETDP SETA) Bursary, a National Student Financial Aid Scheme of South Africa (NSFAS) Bursary; bank loans and assistance from relations. However, since there are numerous students who need and seek financial assistance, prospective candidate teachers are advised to apply well in good time by contacting the financial aid office at the institution where they wish to study.

The Funza Lushaka Bursary Programme is the Department of Basic Education (DBE) bursary programme provided for high achieving individuals with full-cost to cover tuition fees, accommodation with meals included, a book allowance and laboratory fees, where applicable, as well as a monthly stipend to cover basic living expenses. Recipients of a Funza Lushaka Bursary are required to teach in a public school, immediately after qualifying, for the same number of years that they have received a bursary. The Funza Lushaka bursary period may be extended to cover one additional year for a degree programme or one additional course in the Post-graduate Certificate in Education programme (DBE, 2010). The extension is granted on proof that the recipient excelled in one's studies. However, unlike in most high achieving education systems, the foresaid funding options in South Africa are not entirely for free. Recipients are expected to make repayment thereof at a competitive interest rate. In contrast, ITEPD and classroom research funding in the studied Zimbabwean teacher education institutions was close to non-existence. All expenses directly linked to the student teacher, such as tuition fees and day-to-day subsistence and pocket money, were catered for by the student teachers' spouses and other family relations. Darling-Hammond, Wei and Andree (2010) note that in low-economic countries, the overburdened families at times get into serious debts in their attempt to nurture candidate teachers who are eventually poorly remunerated.

Similarly, teacher educators strongly scorned the absence of research funding for their seemingly low educational research appetite. They proposed that teacher education institutions should be offered financial assistance to do research such that teacher educators would practice what they preach. The current situation where most educational research funding was channeled to universities' education faculties was unsustainable as it did not explore the dormant research potentialities in ITEPD institutions. The practice further authenticated the public notion that proper educational research was the prerogative of the university professors, with college-based teacher educators and their students being mere research consumers. To demystify the notion, it was prudent that more collaborative educational research funding be availed through say the Zimbabwe Manpower Development and Educational Funds (ZIMDEF) to incorporate both the university academia and teacher educators drawn from the teachers' colleges.

Furthermore, teacher educators bemoaned that the profession was generally low paying such that their zeal to put that extra effort burns out quickly over the years resulting in unprecedented low lecturer morale. Consequently, peripheral ITEPD components such as CAR tend to suffer. The teacher educator's basic salary upon entry into ITEPD lectureship, at the time of the study, hovered just on the poverty datum line of approximately, US\$550.00 per month which was far below the lecturers' educational investment and patriotism. The above sentiments suggested that there is need to review upwards the general remuneration of teacher educators in line with both regional compensation scales and the economic performance of the country. The scenario concurred with the observation made by Mani and Uma (2010) that lecturer morale impacts directly on delivery of lectures, lecturer effectiveness and their leadership prowess, as well as student achievement levels. The authors' findings from a study they carried out in South Africa correlate with findings of the current study. It was revealed that for over a decade or more, there has been a steady decline in lecturer morale in many institutions of higher learning in South Africa, which has led to many lecturers adopting an apathetic attitude to their profession.

Even the most skilled teacher educators have remained modest, resenting giving off their best. The above findings were consistent with numerous studies that were conducted in developed countries, particularly those in the northern hemisphere, such as, the United States of America (USA). For instance, the USA National Centre for Education Statistics discovered that favourable workplace conditions were positively related to lecturers' job satisfaction regardless of whether one served in a public or private institution. Asikhia (2010) avers that teacher educators should be motivated so that they can be productive. Since lecturers are arguably the most important group of professionals in institutions of higher learning, it was disturbing to note that virtually all of the teacher educators were discontented with salaries and their general working conditions. In the absence of sound teacher educator incentives, one would not expect much in the delivery of services, particularly in curricular areas that are traditionally regarded as second class such as the CAR component.

5.3.4.5 Shoddy Eloquence in English as a Second Language (ESL)

Qualitative data from the analysed research projects showed that the students' ESL competency, generally, fell far below the language prowess expected of prospective teachers. The finding was in consonance with the assertion made by the Indian authority that language proficiency of the teacher needs to be enhanced, but existing ITEPD programmes do not seem to recognise the centrality of language in the curriculum (National Council for Teacher Education, 2009). The deficiency was in contrast to the espoused 3Cs that are overarching constructs that should dominate the 21st Century classroom practitioners. The 3Cs denote creativity/critical thinking, communication and collaboration.

The shoddy language eloquence made reading of the bulk of the project reports rather heavy and the flow of the supposed arguments quite cumbersome. This could have compelled student teachers to blindly lift raw ideas from textbooks and research sites and paste them on their work. As a result, the critical voice of the teacher researcher was glaringly missing in most of the analysed small-scale research

projects. Furthermore, there was predominance in the mixing up of tenses in the analysed CAR projects. These were also tainted with a gamut of grammatical, punctuation and typographical errors. The shortcomings were attributed to the admission of candidate teachers with weak O-Level passes who were alleged to be somehow linked to incumbent teacher educators or some senior government officials.

As a mitigation measure to the shortcoming, it was recommended that the recruitment of candidate teachers should be transparently left out to the colleges' academic boards who should be guided by well-defined admission criteria. In addition, the idea to desist from taking on board candidate teachers with weak O-Level grades, particularly those obtained after say more than three sittings, in three different academic years, resonated in all interface with the research informants. Overall, it was underscored that language as a tool of communication should assume great importance if student teachers are to soundly articulate their CAR projects. Besides, according to the National Council for Teacher Education (2009: 30), "A teacher talks, explains, translates, guides, instructs, cautions, motivates, encourages, illustrates and plays various other roles. All of these imply an appropriate and context-specific use of language". This makes the teacher's language proficiency a critical factor.

5.3.4.6 Negative attitude towards classroom research

The research component, in spite of its utility being embraced, was highly regarded as a peripheral component of the teacher's core mandate. For instance, at College X, the research lectures the students received were 'untraceable' since they had no coursework files required even for external assessment. The lecture notes were not in any of the supposed coursework files, that is, PSA or Distance Education. It appears the lecturers' negative attitude towards CAR was unconsciously passed on to the student teachers. For instance, a significant proportion of the student teachers were alleged not to take their research component seriously, particularly, when they were on teaching practice. Most students, as a result, reneged on the scheduled progress-

check timelines. In addition, the students did not respond sufficiently to the supervisors' comments but rather relied on information from colleague student teachers and research projects previously submitted by former students. Additionally, lectures lamented that lack of adequate training in action research on their part made implementation of the research component worrisome and CAR projects supervision extremely burdensome.

5.3.4.7 Discordant student-lecturer relationship

Discordant student-lecturer relationship was a recurrent problem highlighted by a significant proportion of the student respondents, although overall, most project supervisors were said to be quite supportive. Students expressed displeasure that they were often subjected to serious swearing and ridicule in front of colleague lecturers such that they felt belittled. This was attributed to the lecturers' expectation that the student teachers would have covered most of the requisite research skills and competencies during the research methods lectures delivered during the first residential phase. It appeared the supervisors did not acknowledge that student teachers just like most learners learn gradually and at different rates (Brush and Saye, 2002) and that they too require scaffolded instruction so as to expand their zone of proximal development (ZPD). Larkin (2002) opines that what the learner is capable of doing should be matched with the level of help to be provided. This implies that the learner should not be ridiculed but offered enough assistance to overcome one's learning obstacles.

The type of assistance, however, should not further prevent the learner from contributing and participating in the learning process. This means that whenever a learner is found wanting, he should be professionally afforded individualised CAR assistance. In view of the above, student teachers suggested that there may be need to institute the option of co-supervision to make sure supervisees have someone to lean their shoulders on. Alternatively, there may be need to encourage a situation where by students consult a supervisor in say pairs or small groups to avoid being

subjected to professional abuse, such as, being ridiculed upon or getting suggestive moral remarks. It was underscored that there was need to ensure that lecturers regard student teachers as rational, adult teacher trainees who should be treated as such.

Students vehemently resented being treated as high-school students or primary school pupils. It was evident that teacher educators required familiarisation on andragogy, that is, principles of adult learning (Kearsley, 2010), acquired through a Post-graduate Diploma in Teacher Education. Knowles (1984) as cited by Kearsley (2010), made five assumptions about the characteristics of andragogy that are different from the assumptions about child learners (pedagogy). The assumptions are summarised as follows: As a person matures his/her self-concept progresses from being a dependent personality towards being a self-directed human being; he/she accumulates a growing reservoir of experience that becomes an increasing resource for learning; readiness to learn becomes increasingly oriented towards the developmental tasks related to one's social roles; time perspective changes from one of postponed application of knowledge to immediacy of application; orientation toward learning moves from one of subject-centeredness to one of problem centeredness, and the motivation to learn becomes internal.

The other student-lecturer relational issues brought to the fore were allegations of sexual harassment or misconduct, although students were quick to point out that allegations of sexual harassment, by their secretive nature, were difficult to confidently pin point although dismissing them out rightly would equally be false pretense. The students urged the authorities to come out clean and publicise to both lecturers and student teachers on the standing sexual harassment policy and the associated corrective structures. The findings concurred with those made by Muzenda (2014) in her study of the delivery of the clothing and textiles curriculum in Zimbabwean universities. Students lamented that their supervisors used vulgar words and made sexually suggestive advances which made them uncomfortable to work with some male supervisors.

This concurs with literature which aver that in most instances, sexual harassment is perpetuated by someone who yields superior authority (DeGue, Dilillo and Scalora, 2010; ERA, 2011). Of concern was that students were reluctant to report the purported abusive conduct possibly for fear of victimisation. Others could have found the 'flattering' relations a guarantee of a passing CAR project report. The non-reporting was in agreement with the global trend where female students are alleged to fear of reporting any form of harassment fearing the unknown vengeance by the perpetrators or non-action by those so delegated to protect them (Reese and Lindenburg, 2005). It is also on record that female students are easily flattered by the little gifts they get in the process of abuse. Consequently, the pervasiveness of sexual harassment remains unexplored.

Having discussed the research findings, in relationship to the targeted research questions and associated research objectives, and in view of the reviewed literature and principles underpinning the investigation, the next section summarises the chapter.

5.4 Summary

In this chapter, the researcher discussed the main research findings, guided by the sub-research questions that the study intended to answer. The next chapter summarises the study, focusing on main ideas deciphered from the investigation; overarching research findings; associated major conclusions and suggestive recommendations for both policy and practice, and possible pointers for future research. The alternative CAR implementation strategies were drawn from the premise that the study had important futuristic implications for teacher education, informed by the voices of the coalface practitioners.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

The preceding chapter discussed the main findings of the study under the gleaned sub-themes that were in tune with the sub-research questions. Meanwhile, this sixth chapter summarised the main ideas of the entire study; main research findings; related ITEPD curriculum implications, with particular reference to CAR; the study's potential contribution to ITEPD knowledge and that of CAR implementation; conclusions of the study and recommendations from the study. The research recommendations were split into twofold, that is, those that inform policy and practice and those that provide directions for further research.

6.2 Summary of the main ideas of the study

The study sought to establish how CAR was implemented in selected Zimbabwean teacher education colleges so as to determine the associated educational implications in enhancing a more feasible pre-service teacher education and development curriculum. This was against the background that it was not clear as to what was obtaining on the ground with regard to the construct of concern. The main ideas of the study were categorised into six interwoven chapters whose synopsis is outlined below. Chapter one outlined the background of the study in relationship to the problem under investigation with special reference to overarching experiences drawn from the international, regional and Zimbabwean contexts. The section further summarised the statement of the research problem, the purpose of the study and significance of the study. Research questions as well as objectives of the study were also explicated. The essence of the study, assumptions, delimitation for the study and definition of key terms were also outlined in this first chapter. The chapter established that literature on CAR process was abound but that on its implementation in teacher education colleges,

particularly involving pre-service teachers' and lecturers' perceptions and capacity was scarce. The paucity was in spite of the appreciation of the premise that teacher research should be the norm in an environment where classrooms are characterised by heterogeneous learners, particularly in this age of information explosion (Arias, 2007; Rock and Levin, 2002; Rossouw, 2009). In view of the foresaid and the low CAR projects' achievement levels by Zimbabwean pre-service teachers, the researcher found it prudent to have in-depth understanding of the situation obtaining on the ground.

The second chapter provided an overview of the genesis of CAR. Three of the methodology's models were examined culminating in the espoused Eclectic CAR Model proposed by Brown (2002). The eclectic five-phase CAR model integrates steps from each of the other three models discussed and adds the process of reflection as a deliberate step that occurs throughout the entire CAR process. It was underscored that the study was guided by three theoretical frameworks in line with the adopted pragmatism design. The three theoretical frameworks were experiential learning theory (ELT), the curriculum implementation framework (CIF) and the living educational theory (LET). The theories' adoption was on the basis that they have a strong bearing on reflective practice which is the kernel of classroom action research. The theories also acknowledge the subjectivity of truth in education obtained through circumstantial experiences. Whitehead's (2008) LET was adopted as a suitable theoretical framework befitting CAR open inquiry. LET denotes utilisation of rigorous validation processes to meet research trustworthiness.

The pros and cons of undertaking CAR, in general, were outlined and examined. Overall, it was emphasised that self-study fosters educational practitioner's introspection and working towards self-improvement. It was acknowledged that CAR opportunities help in nurturing effective teachers. Consequently, it was deduced that CAR is an integral component of any ITEPD programme. Additionally, it was stressed that CAR has to be systematically, intentionally and critically planned and implemented. Arrays of factors that impact on the implementation of CAR in any

ITEPD initiative were also examined. These ranged from multiple lecturer capacity factors and teacher factors, such as age, gender, teacher attrition trends, basal or entry qualifications and candidate-teachers' perceptions of teaching. Organisational determinants included deliberate engagement of student teachers in CAR; use of modular structure in information dissemination; collaboration between teacher educators and student teachers, and competent use of ICT by both lecturers and student teachers. The chapter underscored that CAR curriculum implementation is not an all-or-nothing phenomenon (Rogan and Grayson, 2003). This follows that there is no one-or-nothing way of CAR implementation though some good practices should emerge that teacher educators agree that they foster reflective practice and teacher research in general.

Guided by the study's sub-research questions, the third chapter examined the associated research strategies. The study was guided by the mixed methods research approach which is drawn from the pragmatism paradigm. It adopted the between-methods concurrent triangulation (BMCT) design owing to its associated merits. BMCT denotes the simultaneous use of qualitative and quantitative methods in data collection within a single study, with the findings complimenting one another at the data interpretation stage. The design's merits are summarised by Guba and Lincoln (2011) as enabling researchers to be more confident of their research results; stimulation of creative ways of collecting data driven by what works; thicker and richer data are collected that are viewed from multiple lens and may lead to integration of theories. By virtue of its comprehensiveness, Denzin and Lincoln (2009) posit that BMCT serves as the litmus test for competing world views.

Overall, BMCT increases the credibility and validity of research findings, having been derived from more than one standpoint (Cohen, Manion and Morrison, 2007; Creswell and Plano-Clark, 2007). However, it should be stressed that BMCT was not confined to data collection but cut across the entire research continuum from design stage, data collection and analysis stages. The design attempted to decipher insights on implementation of CAR in Zimbabwean teacher education colleges with particular

references to two homogenous teachers' colleges. The two cases or institutions were considered because of their long established tradition on CAR as the requisite component of initial professional teacher education and development curriculum. The targeted teacher educators or lecturers and final year student teachers were assumed to have the ability to answer questions that required description and interpretation of the phenomenon under investigation. The following multiple data sources were used in this study: semi-structured questionnaires; semi-structured interview schedules, focus group discussions and analysis of several CAR relate documents. Such a BMCT or polyangulation (Johnson, 2011; Greenwood and Levin, 2007; Stringer, 2014) procedure provided the researcher with the opportunity to discover paradoxes and contradictions that might inform how the CAR curriculum was implemented in the Zimbabwean initial teacher education and professional development programme.

Consequently, effort was made in the methodological chapter to give detailed account of each of the chosen methodological aspects, namely: the research paradigm, research approach, research design, population, sample and sampling procedures, data collection instruments, data analysis, issues of trustworthiness or legitimation and ethical considerations. Associated methodological limitations, inadequacies and impediments were also interrogated and tentative amelioration strategies suggested. A detailed description of the research process was made on the conviction that research dependability, applicability and replicability or generalisability can only be realised by research consumers if they understand the research process. In addition, the design, development and implementation of the associated research instruments were explicated and in situ justification made for each decision taken.

Chapter four, presented and analysed the data collected from the cocktail of research instruments administered to both teacher educators and student teachers, namely: questionnaires, interviews, focus group discussions and document analysis. The researcher further discussed the major findings of the study in Chapter 5, in relationship to the reviewed literature, theoretical framework and CAR international best practices. Data presentation, analysis and discussion were done in accordance

with the sub-research questions that guided the study. As has been noted before, this final segment, Chapter 6, winds up the study by making concise summation of the research findings, conclusions and proffers a series of recommendations.

6.3 Summary of the main research findings

6.3.1 Teacher educators' capacity in the delivery of CAR

It was evident from the collected data that on face value the sampled teacher educators were mature, well-educated and professionally experienced to provide valuable views on the diverse concerns bedeviling the implementation of CAR in Zimbabwean teacher education colleges. They certainly had the requisite experiential background and expertise. The fact that informants were drawn from a wide spectrum of experiential background assured the researcher of diverse but complimentary views with regard to the issues under investigation. While professionally positive lecturers commendably guided their supervisees and showed positive attitude towards both classroom research and their work thus fostering the production of high grade CAR projects, the opposite was true of the *laisser-faire* type of teacher educators. In the face of such *laisser-faire* lecturers, everything produced by student teachers was passable. Student teachers cited many situations when all research work they submitted to their project supervisors was merely ticked correct without any meaningful feedback only to be condemned at the eleventh hour by a 'foster supervisor'. Students expressed discontent on such eventualities and regretted the seemingly glaring incongruence in the teacher educators' classroom research knowledge.

Taking into account the studied CAR supervision load, it was noted to be quite heavy. The lecturers' supervision load was predominantly between five and six student teachers per lecturer. The load was worsened by the several student intakes that ran concurrently. This led to the seemingly abnormal supervision load of more than 10 student teachers for some teacher educators, particularly those in administrative responsibilities. Most of such overburdened lecturers were lecturers-in-charge (LICs)

who noted that they had to take on board all students who had problems with their initial project supervisors. Such heavy CAR supervision loads certainly compromised the general quality of the projects.

Consequently, it was not unusual that some glaring errors and conceptual inconsistencies went unnoticed by the supervisors thus further compromising the general quality of the research projects. Overall, a fair number of lecturers were quite good in CAR supervision while a significant proportion appeared not so sure on how the small-scale research projects should be conducted. This was in spite of the fact that the same teacher educators had been churning out teacher graduates annually for more than a decade. Meanwhile, data solicited demonstrated that the lecturers' educational research was low, taking into consideration their research output in collaborative research, conference papers, publication of books or book chapters. Their lowest research contribution was in the publication of refereed journal articles.

6.3.2 Predominant CAR implementation strategies

It was evident that CAR was embraced by informants from both research sites as an integral component of the Zimbabwe's initial teacher education and professional development (ITEPD) programme. However, significant disparities were noted on the implementation strategies thereof. The overarching common factor was that at the completion of the three-year pre-service ITEPD cycle, each student teacher was required to submit a small-scale classroom research project which carried 25% of the overall Professional Studies continuum weight. As a norm, the CAR projects were to be submitted before the end of Term 8, that is, in the final residential phase. The two colleges' Professional Studies Syllabus C (PSC) documents reckoned that the student teachers' research projects lay the foundation for the development of basic research skills and competencies in the student teachers.

Furthermore, prior to embarking on their practical research projects, the student teachers were first subjected to research methods theory/lectures during their first

residential two terms, with variance on the hosting or coordinating departments. For instance, one college (College Y) had a research resource person aimed at coordinating teacher educators' continuous professional development initiatives in educational research and publication of research output. Overall, the research respondents lamented on the inadequacy of the available research methods' contact time. It was established that the contact time bestowed to research methods lectures was too little, especially taking into consideration that the lectures were conducted in essence towards the end of the second term during the students' first residential phase.

Research methods lectures were not carried out weekly as scheduled on the reviewed lecture schedules. Furthermore, the bulk of the research lectures were too theoretical, conducted mainly as mass-lectures. This meant that student teachers did not get the opportunity for individual attention that would be required, particularly, when new research concepts were being introduced. The research results revealed that the research theory students teachers got was relatively inadequate. It fell far short of the lecturers' expectations. This was mainly attributed to the little contact time allocated to research tuition. In addition, it was evident that lecturers in main subject areas and even ICT did not deliberately enhance students' understanding of research methods other than during the individual students' CAR projects' supervision.

Additionally, in spite of the differences in methods of operation, both teachers' colleges ensured that during the second term of the five-term teaching practice, students were allocated to CAR project supervisors who would then walk them through the research process from the project proposal stage up to the final project report submission. The student teachers reported that during teaching practice, particularly, early in their second term, students would undergo a two-day CAR vacation workshop before they embarked on the actual research to ensure that they were refreshed on the crucial components of the CAR project writing process. The workshop, however, they alleged, appeared too congested to serve its purpose. To make matters worse, the research workshop often became preoccupied with several other teaching practice concerns

that required urgent redress by the Teaching Practice department at the neglect of the workshop's initial mandate. Ordinarily, students were expected return for their second residential period having done data collection. The subsequent CAR project chapters were supposed to be finalised during the first term of the second residential period, that is, in term eight. Albeit the timeline proved unattainable, with most CAR submitted late in the final term, usually, a fortnight prior to sitting for their end-of-course examinations.

6.3.3 Available CAR support systems and resources

Research data testified that the teacher candidates were both mature and highly trainable. A significant proportion of them had some pre-teacher education professional qualification that signified that teaching was not their profession of first choice. Furthermore, teacher educators conceded that engaging teacher candidates in small-scale research work was an integral component of any initial teacher education and professional development curriculum. They acceded that the component should be awarded its rightful place in any initial teacher education programme rather than the peripheral status it currently finds itself in. The concession was premised on the understanding that CAR nurtures student teachers with the requisite teacher skills and competencies that enable them to make research-based classroom decisions in their day-to-day interaction with pupils. This in turn was said to be important in that it enhances the pupils' overall academic achievement levels. On one hand, student teachers too, strongly agreed to the incorporation of CAR into the teacher education curriculum. They conceded that their involvement in CAR was of considerable benefit to their relative professional growth as it prepared them for later academic demands in furthering their professional education.

6.3.4 General quality of the students' CAR projects

A look at the quality of research projects produced by student teachers revealed a mixed bag thereof as it ranged from very poor to very good but skewed towards

mediocrity, from the teacher educators' perspective. Teacher educator respondents noted that the CAR projects produced by the generality of the student teachers were relatively poor. The research projects were often a repetition of what was previously submitted by the preceding intakes. The plagiarism allegation resonated throughout the researcher's interface with the research subjects. It was established that the college authorities were at a quandary as to how best they might curb the alleged high rate of plagiarism. The alleged ubiquitous cases of plagiarism were said to be difficult to deal with since the CAR projects submitted by previous students remained unpublished. Most research projects fell far below standard on general accuracy of data. Research findings were a collection of ideas that were culled from literature, not in any way related to the collected data. Background to most research problems was rarely well articulated.

Furthermore, there were glaring inconsistencies on a systematic way of referencing adopted by the students in spite of the teacher educators claiming that they stressed on the use of the APA (American Psychology Association) system. Referencing was additionally cheating abound where in-text citations did not correspond in most cases with the reference lists and vice versa. Basic project report presentation skills were not strictly adhered to. For instance, several cases were noted where the contents pages of the CAR projects were not a true reflection of contents thereof, with particular reference to pages numbering. The pages were often misplaced. This also pointed to the students' paucity in Microsoft Word techniques such as the automatic insertion of table of contents, table of figures and table of tables. To make matters worse, such glaring inadequacies were never mentioned by the project supervisors in the assessment reports, indicative of their suspicious assessment too.

6.3.5 Lecturers' supervision prowess

The performance of lecturers in CAR supervision, from the lecturers' perspective was rather fair. However, the respondent student teachers saw it skewed towards good though still with much room for improvement. However, the study revealed that the

assessment of the CAR was extremely subjective. Overall, the general performance of teacher educators in CAR delivery from the execution of research methods lectures to projects supervision was established to be quite varied to generalise due to the disparities in a number of lecturer factors, such as, professional backgrounds, attitude towards work, lecturer burn-out and their general understanding of the expected research process. Nonetheless, the probable effectiveness of the CAR exposure student teachers underwent at the two teachers' colleges was predominantly rated as between moderate and ineffective which called for a multiplicity of intervention measures to ameliorate the noted shortcomings. For instance, one overarching inadequacy was that the CAR induction for lecturers was not what it should be. It was established that lecturers were subjected to a routine one-day CAR workshop annually. Lecturers lamented that the time allocated to lecturers' induction and continuous professional development initiatives in small-scale research was highly laughable taking into account the significance of the curricular component.

6.4 Implications of the study and knowledge contribution

6.4.1 Curricular implications of the research findings

The study revealed that it was generally and wrongly assumed that all lecturers had operational capacity to supervise diploma in education CAR projects. Consequently, teachers' colleges were said to have little CAR continuous professional development initiatives meant to keep lecturers in sync with the curricular standards expected of a novice teacher researcher. As a result, novice lecturers remained at sea on how to best manoeuvre, particularly those in expressive arts who were mainly non-degreed. In the absence of well programmed lecturers' induction initiatives, particularly in CAR, lecturers' competencies in research skills and related supervision remained questionable. In view of the above, a plethora of intervention measures were thus recommended in sync with the espoused theoretical frameworks (CIF, LET and ELT) that reckon the contribution of a multiplicity of factors in realising the implementation of any curriculum. These are outlined in the subsequent section of this chapter.

Meanwhile, the report interrogates the study's implications to theory.

6.4.2 Implications for theory

The research findings were aligned with the three theoretical frameworks that informed the investigation, namely: the experiential learning theory (ELT), the living educational theory (LET) and the curriculum implementation framework (CIF) propounded by David Kolb (Kolb and Kolb, 2005), Whitehead (2008) and Rogan and Grayson (2003), respectively. The theories had a strong bearing on reflective practice which is the kernel of CAR. They all acknowledged the subjectivity of truth in education obtained through circumstantial experiences. They reject theories that espouse closed systems of thinking and despise the glorification of positivistic research as the only lens upon which the effectiveness of teachers is determined. The theories were relevant to the study since they espouse the engendering of self-study in education practitioners. According to Whitehead (2009) LET researchers focus on improvement of their educational practice, developing an in-depth understanding of their teaching practice and the general environment in which the practices are carried out, similar to the CAR focus. The theory is designed to answer the question: 'How do I improve my practice?' It calls upon systematic, intentional and critical teacher participation in educational research as a participatory researcher and not as a mere observer or research informant. Whitehead (2005) acknowledges that subjective experiences of one researcher may influence the wider educational community by providing research findings that can be of great influence in the practice of others. It is here underscored that people reconstruct new knowledge evolving from what they already know (tacit knowledge), one little dose at a time, in an attempt to find solutions to challenges bedeviling their practice.

Experiential learning theory (ELT), on one hand, stresses that learning is most effective if it begins with experience. It acknowledges that knowledge is gained naturally through both personal and environmental experiences. The implication is that CAR skills and competencies develop in student teachers over time from novice

classroom practitioners to competent teacher researchers. Nonetheless, they require a teacher educator catalyst to develop. Additionally, for the requisite skills and competencies to be nurtured, the pre-service teachers, according to Moon (2004) should have the willingness to be actively involved in the experience; the ability to reflect on the experience; the ability to conceptualise the experience; and be in possession of the requisite decision making or problem-solving skills, presumably acquired during their preceding life experiences as high school students or untrained teachers. It is only through possession of such skills that a student teacher would be able to use the new ideas gained from the experience. In view of the foresaid, experiential activities are recognised by ELT as the most powerful teaching and learning tools available. What is important in experiential learning is that the student teacher is directly involved in the experience; reflect on it and retain the knowledge for further use.

Critical reflection is a crucial element of CAR and the entire experiential learning process, and it scaffolds for further learning and allows for further experiences and reflection (Kolb and Kolb, 2005). Complementing the idea of critical reflection in ELT and LET is the concept of practice, underpinned on Dewey's experimental philosophy, according to Yost, Sentner and Forlenza-Bailey (2000). The philosophy assumes that people learn by doing and from recognising the value of what they do in comparison to their lives. It is here implied that if CAR is to be a success, its implementation has to be embraced by both the teacher educators and the student teachers in appreciation of its utility in their core mandate. Additionally, Yost, Sentner and Forlenza-Bailey (2000) posit that Dewey (1933) postulated three major attributes of a reflective teacher, namely: open-mindedness, responsibility and wholeheartedness. Open-mindedness is the ability to give attention to divergent views. It is the conviction that long established traditions may be subjected to questioning. Responsibility, on one hand, is the desire to search for truth and eventually apply the truth to problem solving (Reagan, Case and Brubacher, 2000). Wholeheartedness implies the ability to overcome uncertainties with regard to instruction and make meaningful change thereof.

The CIF in particular enabled the researcher to decipher the multiple factors that need to be taken into account when interrogating the successful implementation of a curricular initiative, underpinned on three overarching constructs, namely: support from outside agencies, capacity to support educational innovation and profile of implementation (Rogan and Grayson, 2003). The relevance of the theory was that it reinforces the premise that teacher factor is key in the implementation of any educational curriculum. This is in the wake of the fact that education protocols on their own do not determine what goes on in the classroom. However, teacher factor is one among the multiple paramount determinants of curriculum implementation. Consequently, in the context of ITEPD, blueprints may be put in place spelling out how CAR should be implemented in teachers' colleges but if they lack the active participation of the coalface practitioners, that is, teacher educators and student teachers, all effort comes to naught. Similarly, educational infrastructure, financial resources and significant stakeholders or external agencies are pivotal pillars that are of paramount significance in determining the success or failure of an education endeavour.

For instance, in the prevalent digital epoch where learners are exposed to rapid knowledge explosion, it would be a misnomer to find a teacher education college that has poor internet connectivity nor with little investment in ICT hardware and software. In this study, it was commendable to have observed that research sites did not disappoint on their investment in the provision of library resources and related ICT equipment and related software. The utilised theories resonated on the idea that classroom practitioners are valuable sources of knowledge that education policy makers would only neglect at their own peril. The greater proportion of intervention measures proffered in this study was not conceived by the researcher but was tentative solution put forward by the research informants. This further consolidated the claim that teacher educators and pre-service teachers are voices that educationists should take heed of. This reinforces the need for extensive consultation each time a curricular initiative is conceived or as it is run as a noble evaluative strategy.

6.4.3 Conclusions of the study

It emerged from the research findings that CAR implementation in the studied Zimbabwean teachers' colleges was intertwined in a gamut of impediments that need to be intelligently circumvented by both teacher educators on their individual capacity and policy makers, at both local and national levels. The overarching impediments included time inadequacy; funding scarcity; paucity of basic classroom action research skills and competencies on the part of some teacher educators; high CAR supervision load; shoddy eloquence in English as a Second Language (ESL) by the student teachers; negative attitude towards classroom research by both teacher educators and the student teachers; and discordant student-lecturer relationships. The lecturers' performance in assisting student teachers in their CAR projects, on one hand, was slightly satisfying owing to several lecturer factors and some other organisational shortcomings that needed to be re-conceptualised. The research informants sited lack of in-depth knowledge on the part of the lecturers on the different research types and the nature of CAR projects they were expected to supervise. Consequently, it would be foolhardy to expect student teachers or protégé to outperform in CAR when their 'mentors' were equally not thick in their conception of CAR. The research knowledge paucity was exacerbated by the limited contact time lecturers had with the supervisees. Furthermore, low lecturer motivation could not be ruled out, particularly, in a period where the nation's public servants' paydays kept on being postponed and negotiated monthly. The study revealed that it was wrongly assumed that all lecturers had operational capacity to effectively supervise the diploma in education CAR projects. Consequently, teachers' colleges had little CAR continuous professional development initiatives meant to keep lecturers in sync with the curricular standards expected of a novice teacher researcher. As a result, novice lecturers remained at sea on how to best manoeuvre, particularly those in expressive arts who were mainly non-degreed.

In the absence of well programmed lecturers' induction and CPD initiatives, particularly in CAR, lecturers' competencies in research skills and related supervision remained questionable, hence the study proffered a plethora of intervention measures to ameliorate the noted inadequacies. Additionally, the study showed that poor research culture prevailed at the teachers' colleges, evidenced by the teacher educators' diluted enthusiasm for research. The lecturers' interest in educational research was low, taking into consideration, particularly, their research output in collaborative research, conference papers, publication of books or book chapters. Their lowest research output was in the publication of refereed journal articles. This shortcoming, combined with far-fetched college-based CAR induction chronicled the lecturers' heavy reliance on research methods and experiences they themselves had in their further studies which in most cases was found wanting for the grade level. Consequently, it would rather be too expectant of quality CAR projects from a mediocre pool of prospective teachers. If the nation intends to produce teachers of better quality, generally, authorities have to ensure that the teaching profession also attracts the best brains. There is need to desist from recruiting say teacher candidates who had attained the required five O-Level passes in five sittings and having five C grades. Additionally, the teacher candidates' recruitment exercise should be made tighter and transparent such that teacher candidates are admitted on merit. Effort should also be made to equip teacher candidates with the requisite communication skills and research competencies since most of them were meeting research as an important lifelong skill for the first time after high school. The communication skills lectures should be offered by a standalone Research Methods Department. Overall, it was commendable to have noticed that pre-service teachers got some theoretical conception of what research was and what the research process involved prior to embarking on the real project work. The fact that student teachers were initiated with some basic research skills was a fairly good start of the skills expected of a baby-researcher.

6.4.4 Contributions of the study to CAR implementation knowledge

This study examined the diverse strategies used in selected Zimbabwean teachers' colleges to develop elementary pre-service teachers with the requisite CAR skills and competencies. This was prompted by the acknowledgement by most education systems that the 21st Century initial teacher education programmes should develop teacher researchers, that is, classroom practitioners with high enthusiasm for self-study, reflection and collaborative engagement with other teachers (NCTE, 2009). In view of the established research findings, it was evident that the implementation of CAR in the identified teachers' colleges requires serious reconceptualisation or reconstruction in adherence to the gleaned international best standards and the voices of the respondents. Consequently, the researcher came up with a hybrid typology for the implementation of CAR in ITEPD.

The suggested typology is illustrated in Figure 6.1. At the centre of the proposed framework is its core mandate which is to foster effective CAR implementation in initial teacher education. The nucleus is then ring-fenced with the construct of CAR ownership by all significant stakeholders to ITEPD. The CAR ownership construct acknowledges that for effective CAR implementation to be realised the entire teacher education community of practice needs to embrace classroom research as a pivotal curricular component in an effort to develop life-long teacher researchers. This concurs with the assertion made by Fullan (2008a) that it is only curricular strategies that teachers have full ownership and appreciation of that they implement in earnest in the classroom.

Furthermore, as was pointed out in reviewed literature, educationists acknowledge that a state's educational frameworks, such as the CAR protocol, serve to regulate but cannot teach hence reliance in competent teacher educators, quality ITEPD programmes and in-service teachers. In affirmation thereof, Deacon (2012) notes that it is essential that the teacher educators or lecturers entrusted with the task of developing CAR skills and competencies approve of it and take an interest in it.

Meanwhile, it should be noted that by embracing the CAR ownership construct, the ITEPD social group and its stakeholders simultaneously acknowledge several other trajectories, namely: learning-to-learn, self-study, collaboration and inclusive education, in the spirit of no-child-should-be-left-behind (NCB) in the 21st Century education provision.

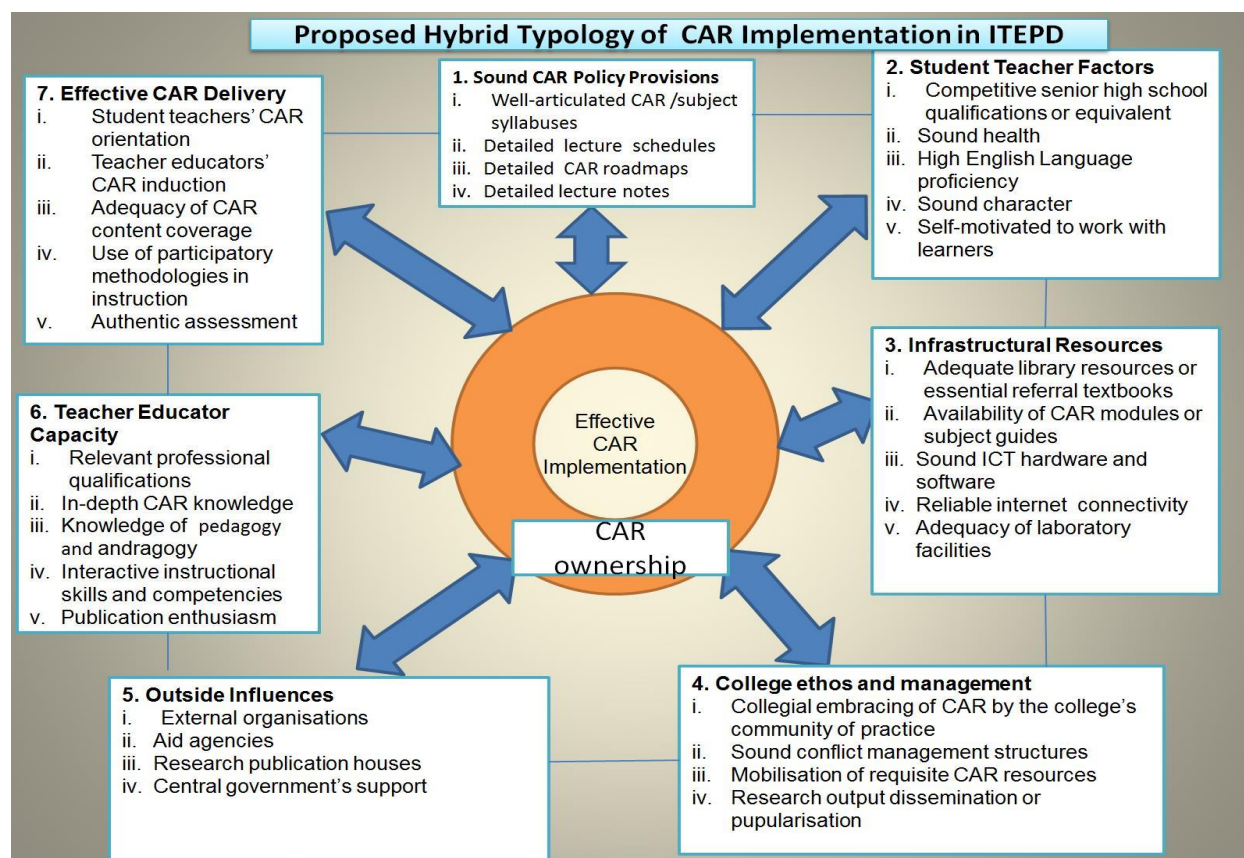


Figure 6. 1 Proposed Hybrid Typology of CAR Implementation in ITEPD

Furthermore, the researcher proposes that with the forenamed trajectories and core CAR mandate in mind, triumphant CAR implementation should be informed by the following seven pillars: sound CAR policy provisions, student teacher factors, teacher educator capacity, infrastructural resources, effective CAR delivery strategies, college ethos and management, and outside influences. The seven curriculum implementation determinants or pillars are deliberately connected to the nucleus with up-down arrows to signify their interdependence. Similarly, a fine line serves as the nexus among the

pillars to represent their talking to each other and also in recognition of the fact that all curricular implementation is intricate that it needs constant reflection on the part of all its significant players.

Next to be discussed are the major tenets for each of the proposed typology's seven pillars.

6.4.4.1 Sound CAR policy provisions

The successful implementation of the research component under interrogation, as is the case with all curricular aspects, hinges on the provision of well thought out policy documents. These include the associated lecture schedules, research guides and lecture notes (Figure 6.1). All such protocols should well articulate the subject's aims, objectives, related content, implementation strategies as well as evaluation criteria that would require proper enforcement. Clarity and logical coherence on such curricular aspects would ensure that the CAR programme remains alive rather than being routinely offered as was established by this study. Furthermore, the design and implementation of an effective CAR programme has to adhere to diverse principles of curriculum development.

All such CAR implementation principles and strategies should reckon that teaching is a profession that demands a reasonable duration upon which teacher candidates gradually develop the requisite CAR skills and competencies, and related attitudes and knowledge. Emphasis should be made on the life-long professional plank, where teacher education and professional development are never conclusive but occur during the entire period of one's teaching life. In that view, it is here underscored that initial teacher education should develop in pre-service teachers the enthusiasm and capability of 'learning to learn' through engagement in opportunities that foster collaborative learning, where both teacher educators and student teachers are given the opportunity for educational experiences that allow sharing among themselves as is espoused by the National Curriculum for Teacher Educators (NCTE) (2009). The CAR

policy provisions, as was stated elsewhere in this discourse should ensure that in the end, the principle of inclusive education is upheld by both teacher educators and pre-service teachers to ensure that ultimately no child is left behind in the provision of quality universal elementary education, as is espoused by the fourth Sustainable Development Goal (SDG) and several other education provision protocols. All such protocols maintain that education is a public good and should be treated as such (Levanti, 2015). This is attributed to the understanding that in the long run, all society profits from educated people because eventually they do not serve themselves but society as a whole.

6.4.4.2 Student teacher factors

The study acceded that a reflective teacher is key in determining the achievement levels of learners, hence the inclusion of the pillar in the proposed framework. Consequently, if teaching is to reach its purported professional status, deliberate effort should be made to ensure that the profession attracts the best brains amongst the prospective teacher candidates. In that view, the study established that there is grave need to upgrade initial teacher education by enhancing its entry qualification and duration of training, as is the practice in developed economies, such as Finland, Canada and the United Kingdom. Nonetheless, high school exit grades should not be the sole assurance of admission for a teacher training post, factors such as good health and sound disposition should be added advantage, with particular emphasis on exhibition of motivation to work with children

Furthermore, respondents recommended that if teaching is to attract teacher candidates with higher secondary education pass marks, that is, A-Level holders, who are assumed to have the propensity to be more reflective teacher researchers, it would be prudent that ITEPD be made equivalent to a degree programme, with its management superintended by a university faculty. Maintaining the diploma in primary education as the basal teacher qualification for the elementary level appears tantamount to the promotion of mediocrity in teacher quality and associated research

output. This comes against the background that the bulk of the teacher candidates in the studied student cohorts were alleged to have weak O-Level passes and low ESL proficiency. In the same vein, as is the international best practice, taking experiences in high achieving education systems, alternative routes should be instituted to attract teacher candidates with non-education qualifications into ITEPD in elementary education as is practised by the South African Department of Higher Education and Training (DHET) (2011) and the Indian National Council for Teacher Education (NCTE) (2009).

6.4.4.3 Teacher educator capacity

The study affirmed that supporting CAR in ITEPD programme is pivotal, particularly where it involves the training and orientation of teacher educators. However, the logic that once one attains a higher education qualification he or she is entitled to train others of lower qualification irrespective of ascertaining whether one possesses the relevant skills and competencies was disputed (NCTE, 2009). It was evident that there is need for the ITEPD personnel to be appropriately trained, particularly in the conduct of CAR in elementary education. This calls for the promotion of undergraduate and post-graduate professional degrees in primary or elementary teacher education, to be pursued by prospective teacher educators. Furthermore, mechanisms need to be evolved to promote the entry of talented teacher educators into ITEPD programmes. Consequently, professionals with Master's Degree in Sciences and Humanities, who are willing to take the teacher educator route, should be given the opportunity to study towards say a MEd programme of one's choice for a shorter period of nine months. This implies that the route to MEd should not be entirely restricted to B.Ed alone. Nevertheless, beneficiaries of such route should be prodigiously familiarised with both pedagogical and andragogic knowledge to avoid the observed discordant lecturer–student teacher rapport. Furthermore, the teacher educator training should incorporate the use of interactive instructional methodologies, and develop in prospective incumbents the requisite appetite for engagement in educational research.

6.4.4.4 Infrastructural resources

This study established that the responsible authorities seem to readily appreciate that for the ITEPD programme to be a success high investment is required in infrastructural resources, such as, lecture rooms, laboratory facilities, relevant ICT hardware and software, and library resources or essential referral textbooks. However, more still needs to be done to keep these in tune with the required lecturer to student ratio. More CAR referral materials written in the language that may be easily comprehended by the students need to be made available.

6.4.4.5 College ethos and management

The above curriculum implementation determinant is grounded on the conviction that each institution is a unique entity that may have personnel culture that enhances or sanctions CAR. Consequently, each teacher education college's teaching staff needs to collaboratively embrace CAR as a united social group or community of practice to avoid the noted disproportionate comprehension of the research process and its major tenets. In most instances, the unity of purpose should start with the college executive and cascades to the subordinate personnel. This concurs with the exhortation given by the NCTE (2009:46) that "... structures and people in supervisory position must be educated to support and provide space to encourage teachers educators to plan and practice autonomously." In instances where differences arise, in relationship to the subject area, there is always need to find amicable means of resolving the conflict, through the instituted administrative structures. On a more clinical stance, further continuous professional development initiatives may be run to keep the teaching staff abreast with the fast evolving research knowledge. Those teacher educators exhibiting some research passion and capability should be given the opportunity to publish and popularise the research output.

Meanwhile, it should be noted that teacher educators being adults would already have formed some professional identity that would need to be professionally managed. For instance, they would already have acquired some valuable teaching experience,

associated beliefs about themselves as teacher educators and on student teachers, and the ITEPD programme as a whole. In that view, any attempt to institute new CAR ideas has to acknowledge and respect the existing teacher educator identity and build upon it. As has been stated above, this calls for adoption of collaborative approach in the design and implementation of the CAR component. Such collaboration would ensure teacher educators' synergy on the CAR content student teachers are subjected to and the minimum standards expected of the students' CAR projects.

6.4.4.6 Effective CAR delivery strategies

One overarching claim consolidated by this study was that the development of a teacher cannot be achieved through quick-fix strategies such as CAR lectures that were delivered to student teachers towards the end of the second term of their first residential period in the 2-5-2 model of ITEPD. It was argued that in-depth engendering of multifarious CAR skills and competencies could only be realised if teacher candidates were exposed to research methods theory for a longer period of time. Such a long exposure would ensure that the requisite CAR skills and competencies are gradually developed, one small dose at a time. The observation further reinforced the need for the reconceptualisation or reconstruction of the current CAR curricula in teacher education colleges. Additionally, reviewed literature (Magwa and Magwa, 2015; Cohen, Manion and Morrison, 2007) emphasises that interactive activities should characterise the CAR component and some in-between authentic evaluation made say through assigning student teachers some progress-check exercises as they attended the requisite research methods lectures, prior to embarking on the practical CAR project during their teaching practicum. Additionally, the proposal to make CAR a standalone component superintended by 'expert teacher educators', particularly in the delivery of research methods lectures seemed to be most welcome. The scenario where every teacher educator was assumed to be a classroom research expert befitting offering research methods lectures to student teachers appeared ill-informed.

6.4.4.7 Outside influences

The above curriculum implementation determinant is grounded on the basis that the development of a reflective teacher is not realised by institutions of higher learning in isolation, that is, in the absence of external organisations, such as, the schools, government department and several aid agencies (Hattingh, Aldous and Rogan, 2007). Furthermore, the espoused research publication, particularly by teacher educators, may only be done through reputable publication houses. Even in instances where research output conferences are done in high achieving nations, funding thereof is usually mobilised through say the UNICEF and other players of similar stature. This testifies that the 'outside influence' may only be neglected at the detriment of curriculum implementation.

Meanwhile, the research report turns to profiling recommendations emanating from the study. As has been noted in the introduction for this chapter, the research recommendations are split into two, which is, those that inform policy and practice and those that provide directions for further research.

6.5 Recommendations emanating from the study

6.5.1 Recommendations that inform policy and practice

- a. In an attempt to capacitate teacher educators and pre-service teachers, more CAR workshops ought to be held at teachers' colleges superintended by experts in classroom practice and not mere desktop researchers who have little clue on the goings on in the contemporary classrooms. Furthermore, CAR workshops should be decentralised to say education districts or circuits from which the student teachers serve during teaching practicum to cut on both travelling costs and time.
- b. The Ministry of Primary and Secondary Education may need to recruit and deploy

CAR resource teachers in every cluster or circuit whose core mandate would be to assist student teachers and their in-service mentors with on-the-job professional development initiatives on research.

- c. To ensure sustainable access of reputable library resources by student teachers during teaching practice, it was proposed that teachers' colleges should provide mobile library facilities to service students from their different circuits or host schools. Alternatively, the responsible education ministry should institute community resource centers at local levels that would in turn be used by student teachers and other professionals within the vicinity for information surfing and research.
- d. The lecturers' teaching load should be reviewing downwards together with the number of student intakes and their frequency particularly at a time when newly qualified teachers were not being absorbed by the responsible education ministry. Initial teacher education output should be in line with the projected teacher need such that resources are in turn channeled to the production of quality teachers. It is here underscored that the supervisor-student ratio needs to be reasonable and manageable to allow effective and meaningful supervision.
- e. In the same vein, the student teachers' teaching load while on TP should be reduced so as to give them time for all the other curricular duties. A situation where the entire day was already timetabled with students expected to create time was unsustainable.
- f. The introduction of research methods lectures should not be left until late in the second term of the first residential phase. Student teachers should start on CAR as soon as they start their first year. They should also do some guided assignments on CAR projects during their first residential period such that when they proceed on teaching practice they would be better prepared to embark on the individual research projects. Emphasis should be made on engaging students

teachers on more practical exercises before they carry out their final research studies so as to equip them with the relevant research skills at an early stage, such as, proposal writing. Serious and thorough teaching of research theory and practice is required, characterised by interactive research activities, such as, the use of on screen videos, group discussions and preliminary fieldwork.

- g. Proper and systematic timetabling is required where the action research process is well articulated through interactive lectures from start to finish. Furthermore, the research theory lectures should be superintended by specialist lecturers rather than the current situation where it is spearheaded by mainly PSA lecturers whose pedigree was questionable. The research methods component should be a stand-alone ITEPD course with specialist lecturers as is the case with Theory of Education and other PSB subject areas such as Mathematics or Physical Education. All such subjects are superintended by specialist lecturers such that one would find it a misnomer to find say a Music lecturer masquerading as a Mathematics guru.
- h. New lecturers required deliberate and systematic CAR induction, particularly on the focus and nature of classroom research expected of student teachers for the attainment of the Diploma in Education, in contrast to research work expected at undergraduate level. The colleges' senior management alleged that the CAR bar was often pitched too high for the novice teacher researchers.
- i. There is need to re-capacitate the lecturers in the wake of the dynamic nature of CAR. Some uniformity and objectivity on the marking guides should be realised to avoid the noted subjectivity where CAR projects that one lecturer would rate as mediocre would be rated by another as distinction material.
- j. Colleges should come up with standardised college format on CAR implementation, particularly, project report presentation such that students are not subjected to contradictory or conflicting research knowledge. The

standardisation may be documented through say regularly updated ITEDP research modules. Such modules should clearly articulate the college's way of doing classroom research which should also be in sync with prevailing international best standards. The standardisation would bring some synergy among lecturers and even teachers' colleges on which research project type to adopt between the traditional or basic research and action research. In addition, colleges would institute and implement policies aimed at best dealing with over-researched topics and suspected cases of plagiarism.

- k. There is need to continuously staff develop the teacher educators. It appears the research theory students were subjected to in research methods lectures prior to engagement in practical research was not in sync with what the majority of the lecturers expected from the students. This tended to further confuse the students too. Frequently held CAR workshops would enhance the lecturers' CAR supervision skills and competencies. Such workshops would ensure uniformity on the teacher educators' comprehension of major tenets of the CAR process and minimum standards expected of the students. The lecturers, in turn, should be given time to engage in collaborative classroom research that would feed into the initial teacher education curriculum.
- l. To further institute some CAR synergy among the teacher educators on what to expect of students in their research projects, concise and more simplified search modules should be compiled and issued out for use by students during their teaching practicum. Such research modules should be periodically updated in a cycle of say after every five years, to keep the student teachers abreast with the rapidly changing educational curricula dynamics.
- m. Decentralised CAR workshops should be organised to iron out recurrent CAR shortcomings for both lecturers and student teachers particularly during the students' teaching practice period. Such fora should also be exploited in showcasing commendable trends and CAR projects by the students. A step at a time would certainly have life changing consequences on the teacher trainees.

- n. The college library should stock samples of good projects that students can access, critic and build upon. This would ensure that student teachers are deliberately exposed to real CAR projects done by previous student cohorts. In-depth analysis of such projects should be done to decipher the adopted research procedures, associated strengths and weaknesses, and even discuss the associated assessment rubrics as an alternative strategy of producing CAR projects of high quality.
- o. More time should be allocated to the teaching of basic research skills prior to embarking on individual research projects. Furthermore, the content covered in research lectures should be intensive and classroom related. In addition, the CAR projects should be done to their finality during TP such that when students are back to college, they concentrate on course work for other subject areas and preparation for the related examinations.
- p. There is urgent need to restore the dignity of teacher educators as professionals and provide appropriate incentives for qualified and committed personnel to avoid the prevalent rapid teacher educator burn out.
- q. It is prudent to ensure that all teaching staff is provided with subsidised laptops by the college authorities such that access to e-library facilities and available internet hotspots is guaranteed.

6.5.2 Suggestions for further research

The following are areas that may need to be considered for further research:

- a. The study focused on a sample of teacher educators and final-year student teachers drawn from two primary teacher education colleges out of the possible eleven teachers' colleges in Zimbabwe. This was necessitated by the available research duration and financial resources that were at the researcher's disposal. Besides, it is beyond the scope of most research studies to use the entire target

population as research informants (Cohen, Manion and Morrison, 2007; Gray, 2004). In view of the foresaid, generalisability of the research findings should certainly be treated with a pinch of salt. It is therefore prudent to note that the research findings only apply specifically to the sample. This is in acknowledgement of the understanding that research findings cannot be generalised without being skeptic. The observation concurs with the assertion made by Guba and Lincoln (2005) that every study is unique in some aspect. It is here stressed that the results of any specific study need to be assessed in the context of strengths and weaknesses of the research design, data collection instruments or procedures and data analysis techniques. Furthermore, although the study's findings can be relatively accurate, the element of chance and bias can never be dismissed.

- b. Participants were drawn mainly from two public-owned teachers' colleges due to their ease of accessibility by the researcher since he was highly acquainted with the institutions' teacher education delivery terrain. Results thereof may not be considered to be one-size-fit-all with regard to the privately owned teachers' colleges though they are supposed to equally follow the CAR delivery provisions spelt out by the University of Zimbabwe's Department of Teacher Education (UZ DTE). This further explains why the research findings may not be generalised entirely either to the privately owned colleges of education. It would thus suffice to recommend that future studies may need to investigate the delivery of CAR in private teachers' colleges. There may also be need to compare the goings on with what is obtaining in secondary teachers' colleges.
- c. Research questionnaires were used as the main data collection instrument complemented by semi-structured interviews, focus group interviews and analysis of documents. The use of say observation techniques could possibly have revealed a deeper insight on the problem in question.
- d. Since the investigation targeted mainly lecturers and pre-service teachers at the

exclusion of other significant stakeholders such as in-service teachers and school heads, one would hasten to assume that their inclusion as informants would bring a richer in-depth comprehension of the issue under investigation.

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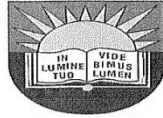
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APPENDICIES

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APPENDIX A: Ethical Clearance Certificate



University of Fort Hare
Together in Excellence

ETHICAL CLEARANCE CERTIFICATE **REC-270710-028-RA Level 01**

Certificate Reference Number: REM241SBAN01

Project title: **Implementation of Classroom Action Research in Zimbabwean Teacher Education Colleges: Implications for Teacher Education Curriculum.**

Nature of Project: PhD

Principal Researcher: Wilson Banda

Supervisor: Prof S Rembe

Co-supervisor: N/A

On behalf of the University of Fort Hare's Research Ethics Committee (UREC) I hereby give ethical approval in respect of the undertakings contained in the above-mentioned project and research instrument(s). Should any other instruments be used, these require separate authorization. The Researcher may therefore commence with the research as from the date of this certificate, using the reference number indicated above.

Please note that the UREC must be informed immediately of

- Any material change in the conditions or undertakings mentioned in the document
- Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research

The Principal Researcher must report to the UREC in the prescribed format, where applicable, annually, and at the end of the project, in respect of ethical compliance.

Special conditions: Research that includes children as per the official regulations of the act must take the following into account:

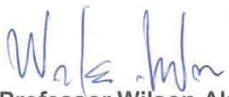
Note: The UREC is aware of the provisions of s71 of the National Health Act 61 of 2003 and that matters pertaining to obtaining the Minister's consent are under discussion and remain unresolved. Nonetheless, as was decided at a meeting between the National Health Research Ethics Committee and stakeholders on 6 June 2013, university ethics committees may continue to grant ethical clearance for research involving children without the Minister's consent, provided that the prescripts of the previous rules have been met. This certificate is granted in terms of this agreement.

The UREC retains the right to

- Withdraw or amend this Ethical Clearance Certificate if
 - Any unethical principal or practices are revealed or suspected
 - Relevant information has been withheld or misrepresented
 - Regulatory changes of whatsoever nature so require
 - The conditions contained in the Certificate have not been adhered to
- Request access to any information or data at any time during the course or after completion of the project.
- In addition to the need to comply with the highest level of ethical conduct principle investigators must report back annually as an evaluation and monitoring mechanism on the progress being made by the research. Such a report must be sent to the Dean of Research's office

The Ethics Committee wished you well in your research.

Yours sincerely


Professor Wilson Akpan
Acting Dean of Research

20 September 2016

APPENDIX B: Introductory Letter from the University of Fort Hare

Faculty of Education

School of Further and Continuing Education

Stewart Hall, Alice

Phone: Alice: 040602412

Email: nmayiya@ufh.ac.za



06 May 2016

The Permanent Secretary
Ministry of Higher and Tertiary Education, Science and Technology Development,
New Government Complex
Corner Samora Machel Avenue and Simon Vengai Muzenda
Harare Zimbabwe

Dear Sir,

Re: Permission to Collect Data: Mr. W. Banda (Student Number 201503128)

This is to confirm that Mr. Banda is pursuing PhD degree at the University of Fort Hare. His research title is **“Implementation of Classroom Action Research in Zimbabwean Teacher Education Colleges: Implications for Teacher Education Curriculum”**. He is supposed to collect data from the Colleges of Education. Kindly grant him permission. I would also be grateful if you could kindly provide him with documents that may assist with information regarding the area of his study.

I would like to assure you that any information that will be collected will remain confidential and no name of a person will be disclosed. The student will ensure that he does not disrupt ongoing activities during the period he will be collecting data.

Sincerely

A handwritten signature in black ink, appearing to be 'S. Rembe', is written below the word 'Sincerely'.

Prof. S. Rembe

**Coordinator of MEd and PhD Programmes,
Faculty of Education, Alice Campus
University of Fort Hare**

APPENDIX C: Letter seeking authority to access teacher education colleges

10 May 2016

The Permanent Secretary
Ministry of Higher and Tertiary Education, Science and Technology Development, New
Government Complex
Corner Samora Machel Avenue and Simon Vengai Muzenda Harare

Dear Sir

Reference: Application for Permission to Conduct Research in Primary Teacher Education Colleges - Banda Wilson (PhD Student)

Reference is made to the issue in caption. I am a Doctoral student at the University of Fort Hare in South Africa. I intend to access mainly two teachers' colleges to solicit data associated with my PhD thesis. I intend to interface with a sample of 64 lecturers and 76 final-year pre-service teachers.

Research topic: Implementation of Classroom Action Research in Zimbabwean Teacher Education Colleges: Implications for Teacher Education Curriculum.

Data collection instruments: Questionnaires, interview schedules, focus group, interview schedules and document analysis checklists.

Projected starting date: 1 June 2016

Projected date of completion: 31 October 2016

Degree of disrupting scheduled curricular activities: None

Feed back to your office: Submission of a bound copy of the final version of the thesis.

I appreciate in advance your usual cooperation.

Yours faithfully



Wilson Banda *M.Ed. (UZ), B.Ed., C.E., Dip.in Agric (UK)*

E-mail addresses: wilson@zie.co.zw; 201503128@ufh.ac.za **Cell:** +263 772 881050

APPENDIX D: Data collection authorisation

All official communications should be addressed to:
"The Secretary"

Telephones: 795891-5, 796441-9, 730055-9
Fax Number: 733070
Telegraphic address: "EDUCATION"



Reference:

SECRETARY FOR HIGHER AND
TERTIARY EDUCATION SCIENCE AND
TECHNOLOGY DEVELOPMENT
P. BAG CY 7732
CAUSEWAY

09 June 2016

Mr W. Banda
University of Fort Hare
SOUTH AFRICA

Dear Mr Banda,

**REQUEST OF AUTHORITY TO CARRY OUT A RESEARCH ON
"IMPLEMENTATION OF CLASSROOM ACTION IN ZIMBABWEAN TEACHER
EDUCATION COLLEGES: IMPLICATIONS FOR TEACHER EDUCATION
CURRICULUM": MINISTRY OF HIGHER AND TERTIARY EDUCATION,
SCIENCE AND TECHNOLOGY DEVELOPMENT**

Reference is made to your letter, in which you requested for permission to carry out a research on **"Implementation of classroom action research in Zimbabwe Teacher Education Colleges: Implications for Teacher Education Curriculum: Ministry Of Higher And Tertiary Education, Science and Technology Development.**

Accordingly please be advised that the Head of Ministry has granted permission for you to carry out the research.

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 E: Sample letter on accessing the teacher education colleges

The Principal
College Y

9 June 2016

Dear Sir/Madam

Reference: Application for Permission to Conduct Research at your Teachers' College - Banda Wilson (PhD Student)

Reference is made to the issue in caption. I am a Doctoral student at the University of Fort Hare in South Africa. I intend to access your institution to solicit data associated with my PhD thesis. I intend to interface with a sample of 32 lecturers and 38 final-year student teachers.

Research topic: Implementation of Classroom Action Research in Zimbabwean Teacher Education Colleges: Implications for Teacher Education Curriculum.

Data collection instruments: Questionnaires, interview schedules, focus group interview schedules and document analysis checklists.

Projected starting date: 13 June 2016

Projected date of completion: 31 October 2016

Degree of disrupting scheduled curricular activities: None

Feed back to your office: Submission of a bound copy of the final version of the thesis to the college's main library.

I appreciate in advance your cooperation. Please note that permission to carry out the inquiry has been granted by the Head of Ministry (see attachment).

Yours faithfully



Wilson Banda
Cell: +263772881050

M.Ed. (UZ), B.Ed., C.E., Dip.in Agric (UK)
E-mail addresses: wilson@zie.co.zw; 201503128@ufh.ac.za

APPENDIX F: Informed Consent Form for Teacher Educators

University of Fort Hare
Faculty of Education
Department of Further and Continuing Education

Title of the Study

Implementation of Classroom Action Research in Zimbabwean Teacher Education Colleges: Implications for Teacher Education Curriculum.

Conducted by: Wilson Banda Supervisor: Professor Symporosa Rembe

The purpose of the study and the extent to which I will be involved was succinctly explained to me. I have understood the essence of the study and the degree of my involvement. Consequently, I voluntarily consent to take part in the study, unreservedly. I understand that I am free to withdraw, on my volition, from participating in the study at any given time without giving reasons hitherto. I further agree to audio-recording of any part of my interface with the researcher. I understand that this consent form will not be linked to any of the research instruments to ensure that my participation remains confidential. Additionally, upon completion of the study, I am informed that feedback will be given to my community on the findings thereof. As evidence of my willingness to partake in this study, I herein-under append my signature and associated details:

Signed at (Place):on (Date)
By (Full Name):
Email Address
Cell Number:
Signature:

APPENDIX G: Informed Consent Form for Student Teachers

University of Fort Hare
Faculty of Education
Department of Further and Continuing Education

Title of the Study

Implementation of Classroom Action Research in Zimbabwean Teacher Education Colleges: Implications for Teacher Education Curriculum.

Conducted by: Wilson Banda Supervisor: Professor Symporosa Rembe

The purpose of the study and the extent to which I will be involved was succinctly explained to me. I have understood the essence of the study and the degree of my involvement. Consequently, I voluntarily consent to take part in the study, unreservedly. I understand that I am free to withdraw, on my volition, from participating in the study at any given time without giving reasons hitherto. I further agree to audio-recording of any part of my interface with the researcher. I understand that this consent form will not be linked to any of the research instruments to ensure that my participation remains confidential. Additionally, upon completion of the study, I am informed that feedback will be given to my community on the findings thereof. As evidence of my willingness to partake in this study, I herein-under append my signature and associated details:

Signed at (Place):.....on (Date)

By (Full Name):.....

Email Address Cell Number:

Signature:

APPENDIX H: Editor's Declaration

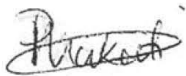
58 Essenhout Drive, Randpark Ridge, 0632739957, pmmakati@gmail.com

12 December 2016

TO WHOM IT MAY CONCERN

I hereby declare that the dissertation titled "Implementation of classroom action research in Zimbabwean teacher education colleges: implications for teacher education curriculum" by Wilson Banda has been intensively edited and thoroughly proofread. I have checked for language use, corrected spellings and grammatical errors, and ensured logical flow of text.

Yours Sincerely,



Dr Pamela Makati
Academic Editor

APPENDIX I: Questionnaire for Teacher Educators

STATE YOUR PSEUDONYM

INSTRUCTIONS

This questionnaire seeks to gather information on how classroom action research (CAR), commonly known as the curriculum depth-study (CDS) project is implemented in selected Zimbabwean teacher education colleges. This study is in fulfilment of my Doctoral thesis with the University of Fort Hare. It is the purpose of the inquiry to explore and understand the delivery of CDS projects in public teacher education colleges in Zimbabwe and determine the associated educational implications to enhance a more feasible curriculum for initial professional education and development of teachers. To ensure that your identity remains anonymous and no one should know your responses all potential identifiers of individuals are thus removed. Consequently, please do not write your name on the questionnaire. Instead, state your pseudonym as no names or locations of participants will be mentioned in this study. In addition, your honest responses to all questions are anticipated based on your experience with the CDS project. There is no right or wrong answer to the questions but your honest opinions are sincerely sought in each instance. Your responses shall be treated with the confidence they deserve. Furthermore, your completion of the questionnaire indicates your agreement to participate in this valuable research. Meanwhile, I would like to thank you for sparing your valuable time to respond to the questionnaire.

SECTION A: YOUR BIOGRAPHIC DATA

Cross (X) the appropriate response in the space provided.

1. Gender:

Male	Female
1	2

2. Age:

20-25	26-30	31-35	36-40	41-45	46-50	Over 50
1	2	3	4	5	6	7

3. Teaching Experience in Teacher Education/Teachers' College in years:

1-5	6-10	11-15	Over 15
1	2	3	4

4. Highest Professional Qualification:

PhD	Master's Degree	Bachelor's Degree	Diploma in Education	Other(Please specify)
1	2	3	4	5

5. State your current job title.....

6. Name your Department:

7. For how long have you served in the current position?

1-5	6-10	11-15	Over 15
1	2	3	4

8. State the education level in which you served as a classroom practitioner/teacher?

Infants	Junior Primary	Junior Secondary	Senior Secondary
1	2	3	3

9. For how long did you serve as a teacher prior to being promoted to the post of a college lecturer?

1-5	6-10	11-15	Over 15
1	2	3	4

SECTIONB: CLASSROOM ACTION RESEARCH IMPLEMENTATION

Cross (X) the appropriate response in the space provided. Where comments are required please write your remarks legibly. Use additional paper where necessary.

10. Give an outline of all your educational publications(use additional paper where necessary):

a) Books:

.....

b) Refereed Journal Articles:

.....

c) Papers presented at national or international fora:

.....

11. State any collaborative research work in which you were involved in the past 5 years (i.e. 2011 to date):

	Year	Research title or brief description	Responsible Organisation
1			
2			
3			

12. In your opinion **why do you think** the CDS project/educational research programme is an important component of the initial teacher education and development course?

13. In your view, comment on the general quality of CDS projects that are produced by the generality of the student teachers at your institution:

14. How many final-year student teachers are you supervising in CDS projects?

1	2	3	4	5	6	7	8	9	10	Other specify

15. How many other student teachers are you supervising in CDS projects?

1	2	3	4	5	6	7	8	9	10	Other specify

Comment on your CDS supervision workload:.....

16. How are you coping-up with the general supervision of student teachers in their small-scale research projects:

Not quite well	Slightly well	Somewhat well	Moderately well	Extremely
1	2	3	4	5

Give comments to your response to the above question:

.....

17. Outline the major challenges faced by you and most of your colleague lecturers in your attempt to effectively prepare student teachers to produce quality CDS projects:

.....

18. How best do you think the CDS component may be improved?

.....

19. What is your rating of the final year students' CDS projects you supervised?

Very poor	Poor	Fair	Good	Very Good
1	2	3	4	5

Comment to justify your rating of the quality of the research projects as stated in above question?

20. How would you rate the assistance your colleague lecturers offer students in their CDS projects?

Not helpful	Slightly helpful	Moderately helpful	Very helpful	Extremely helpful
1	2	3	4	5

21. Give possible reasons for your rating in the above question:

.....

22. How satisfying is your college-based professional induction in CDS projects or teacher research tuition and supervision?

Not satisfying	Slightly satisfying	Moderately satisfying	Very satisfying	Extremely satisfying
1	2	3	4	5

Comment on your response:.....

23. How would you rate the effectiveness of the research exposure student teachers are subjected to during their initial teacher education?

Not Sure	Ineffective	Effective	Quite effective	Extremely
1	2	3	4	5

Comment on your response:

24. Rate the adequacy of research tuition student teachers receive prior to embarking on CDS projects:

Very Inadequate	Slightly Inadequate	Moderately Adequate	Very Adequate	Extremely Adequate
1	2	3	4	5

Comment on your rating to the above question:.....

25. How resourced is your college library in terms of CDS projects' delivery or classroom research?

Not satisfying	Slightly satisfying	Moderately satisfying	Very satisfying	Extremely satisfying
1	2	3	4	5

Comment on your response:

26. Rate the college's internet connectivity:

Very poor	Poor	Fair	Good	Very Good
1	2	3	4	5

27. Rate the adequacy of computers to lecturers for research purposes at your college?

Very Inadequate	Slightly Inadequate	Moderately Adequate	Adequate	Extremely Adequate
1	2	3	4	5

Comment on your rating:

28. Rate the adequacy of computers to student teachers for research purposes at your college?

Very Inadequate	Slightly Inadequate	Moderately Adequate	Adequate	Extremely Adequate
1	2	3	4	5

Comment on your rating:

-
29. Comment on the possible impact of the initial student teacher qualification on admission at college in relation to their overall performance in CDS projects:
-
30. If given the chance, how would you improve your college's CDS component?
-
31. What else would you want to inform the researcher with regard to the issue under investigation?

Thank you once again for the time taken to respond to the questionnaire.

Wilson Banda <i>M.Ed;B.Ed;CE;Dip.Agric.(UK)</i> Membership Services & Training Officer The Zimbabwe Institution of Engineers (ZIE) Telephone: +263 4 746821 Mobile: +263 772-881-050 Business Email: wilson@zie.co.zw Private: wilsonbda@gmail.com Skype: wilson.ephream.banda	University of Fort Hare Private Bag X1314 Alice 5700 South Africa Student Email: 201503128@ufh.ac.za
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APPENDIX J: Questionnaire for Student Teachers

QUESTIONNAIRE FOR STUDENT TEACHERS

STATE YOUR PSEUDONYM

INSTRUCTIONS

This questionnaire seeks to gather information on how classroom action research (CAR), commonly known as the curriculum depth-study (CDS) project is implemented in the selected Zimbabwean teacher education colleges. This study is in fulfilment of my Doctoral thesis with the University of Fort Hare. It is the purpose of the inquiry to explore and understand the delivery of CDS projects in public teacher education colleges in Zimbabwe and determine the associated educational implications to enhance a more feasible curriculum for initial professional education and development of teachers. To ensure that your identity remains anonymous and no one should know your responses all potential identifiers of individuals are thus removed. Consequently, please do not write your name on the questionnaire. Instead, state your pseudonym as no names or locations of participants will be mentioned in this study. In addition, your honest responses to all questions are anticipated based on your experience with the CDS project. There is no right or wrong answer to the questions but your honest opinions are sincerely sought in each instance. Your responses shall be treated with the confidence they deserve. Furthermore, your completion of the questionnaire indicates your agreement to participate in this valuable research. Meanwhile, I would like to thank you for sparing your valuable time to respond to the questionnaire.

SECTION A: YOUR BIOGRAPHIC DATA

Cross (X) the appropriate response in the space provided.

1. Gender:

Male	Female
1	2

2. Age:

Below 20	20 -25	26 - 30	31 – 35	36 – 40	41 and above
1	2	3	4	5	6

3. Pre-Teacher Education Teaching Experience in years:

Below 1 Year	1 -5	6 - 10	Over 10 Years
1	2	3	4

4. Highest Academic Qualification:

Advanced Level	Ordinary Level	Other (Please specify)
1	2	3

5. State any professional qualification(s) that you already have:.....

SECTION B: CURRICULUM DEPTH STUDY PROJECT EXPERIENCES

Cross (X) the appropriate response in the space provided. Where comments are required please write your remarks legibly. Use additional paper where necessary.

6. Give the full title of your CDS project:

.....

7. How far have you progressed with your CDS project?

Still on Topic	Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5	Done
1	2	3	4	5	6	7

8. How would you rate the assistance you got or are getting from your CDS project supervisor?

Poor	Average	Satisfactory	Good	Very Supportive
1	2	3	4	5

Comment on your rating:

9. To what extent do you agree with the outlined possible benefits for the inclusion of educational research or the CDS project in initial teacher education?

Possible benefit	1	2	3	4
	Strongly disagree	Neutral	Agree	Strongly Agree
a) I have become a better problem solver from doing the CDS project research.				
b) I feel more confident in helping my pupils through experience in CDS				
c) I have benefited from sharing my action research problem with others.				
d) My desire to better understand my				

teaching practice was fulfilled when I did the CDS project.				
e) I became more motivated in my teaching practice because of the classroom research.				

10. In what way do you think your pupils benefitted from your CDS project?

11. Who else do you think benefitted from your CDS project and in what way?

.....

12. Rate the quality of research tuition you received prior to embarking on your CDS project:

Very Inadequate	Slightly Inadequate	Moderately Adequate	Adequate	Extremely Adequate
1	2	3	4	5

Comment on your rating:

13. How good are the CDS projects produced by the current crop of final-year student teachers?

Very poor	Poor	Fair	Good	Very Good
1	2	3	4	5

Comment on your rating:

14. What difficulties did you and most of your colleagues face in doing your CDS project, taking into account research lectures, literature review, supervision and final report writing?

15. How best do you think the challenges outlined in Question 14 may be solved?

.....

16. How well would you rate the quality of research lectures you received in preparation of your CDS project?

Very Inadequate	Slightly Inadequate	Moderately Adequate	Very Adequate	Extremely Adequate
1	2	3	4	5

Give reasons for your above rating:

17.How resourced is your college library in terms of CDS projects delivery or classroom research?

Not satisfying	Slightly satisfying	Moderately satisfying	Very satisfying	Extremely satisfying
1	2	3	4	5

Comment on your response:

18.Rate the college's internet connectivity:

Very poor	Poor	Fair	Good	Very Good
1	2	3	4	5

Comment on your rating:.....

19.Rate the adequacy of computers to student teachers at your college for research purpose?

Very Inadequate	Slightly Inadequate	Moderately Adequate	Adequate	Extremely Adequate
1	2	3	4	5

Comment on your rating:

20.How well would you rate the general performance of the college lectures in assisting student teachers in their CDS projects?

Not helpful	Slightly helpful	Moderately helpful	Very helpful	Extremely helpful
1	2	3	4	5

Give possible reasons for your rating in Question 20 above:

.....

21.How effective is the research exposure you were subjected to during your initial teacher education?

Not Sure	Ineffective	Effective	Quite Effective	Excellent Good
1	2	3	4	5

Comment on your response:

22.If given the chance, how would you improve your college's CDS programme?

.....

23.What else would you want to inform the researcher with regard to the issue under investigation?

.....

24.What other lessons have you learnt from doing the CDS project that you would want to share with the researcher?

.....

Thank you once again for the time taken to respond to the questionnaire.

APPENDIX K: Interview Schedule for Teacher Educators

Preliminaries – getting to know each other, introduction and general talk.

- i. Why do you think small-scale research is an important component of teacher education?
- ii. Describe how your college's CAR component is organised to prepare students into competent teacher researchers.
- iii. What library and ICT resources are in place at your teachers' college aimed at promoting the development of requisite research skills and competencies in student teachers?
- iv. Comment on your experiences as a CAR project supervisor.
- v. How would you describe the adequacy of the opportunity you had to interface with the students during their research work?
- vi. Comment on the quality of CAR projects that are produced by the generality of your student teachers.
- vii. How would you rate the general understanding of research work by your supervisees/college students?
- viii. Comment on the general capacity of colleague lecturers in assisting student teachers in their CAR projects.
- ix. What major problems, in general, do you and your colleagues encounter in the supervision of students in their project work?
- x. What tentative solutions do you have to each of the problems?
- xi. How best do you think the college's CAR component may be improved?
- xii. Is there any area of concern, with regard to the issue under investigation, you think the interview did not cover but should have been discussed?

(Questions culled from reviewed literature: Ellis, Armstrong and Groundwater-Smith, 2010; Flornes, 2007)

APPENDIX L: Interview Schedule for Student Teachers

Preliminaries – getting to know each other, introduction and general talk.

- i. Describe how your college's CAR component is organised to prepare you into a teacher researcher.
- ii. How adequate is the preparation, in general?
- iii. Describe the adequacy of the college's library resources aimed at preparing you into competent teacher researchers.
- iv. How would you rate the quality of research lectures you receive prior to embarking on your CAR projects?
- v. How supportive was your CAR project supervisor in your research work?
- vi. Did you have adequate opportunity to interface with your project supervisor? Comment on your response.
- vii. In your view, comment on the general quality of CAR projects that are produced by the generality of student teachers at your college.
- viii. Comment on how good, in general, your college lecturers are in helping students through their CAR projects?
- ix. What major problems did you encounter in working through your CAR project?
- x. What possible solutions would you suggest to each of the encountered problems?
- xi. What do you think should be done to improve the current research component at your college?
- xii. Is there any area of concern, with regard to the issue under investigation, you think the interview did not cover but should have been discussed?

(Questions culled from reviewed literature: Ellis, Armstrong and Groundwater-Smith, 2010; Flornes, 2007)

APPENDIX M: CAR Documents Analysis Schedule

College Identity:

College X	College Y

Attribute		Yes	No	Comments
1	Are PSC lecture schedules available?			
2	Do the scheduled CAR lectures outline in chronological order the expected action research process?			
3	Do the scheduled lectures adequately cover the minimum requirement of 30 hours of tuition?			
4	Is there diversity on the lecturers who facilitate on the different action research topics?			
5	Do the students' CAR lecture notes match with the scheduled PSC lecture?			
6	Are the CAR lecture notes a reflection of CAR skills and competencies expected of pre-service teachers?			
7	Are the noted CAR lecture notes complimented by supplementary students' personal notes?			
8	Is there record of a student teacher's interface with one's CDS project supervisor?			
9	Is the supervision record supportive of the student's professional growth?			

APPENDIX N: Focus Group Interview Schedule for Teacher Educators

Introduction

In administering the focus group interview, the researcher started off by introducing himself to the participants. He took this opportunity to reiterate the purpose of the research. Associated focus group ground rules were outlined to ensure that the conferencing was done orderly, according all participants the professional respect they deserve. Permission was sought and granted to audio-tape the group interviews using a digital voice recorder (Livescribe 3 Smartpen).

Objective 1: Description of the status of classroom action research at one's teachers' college in the context in which it is delivered.

1. Comment on how the colleges' CAR is structured?
(How does your college develop or prepare candidates into teacher researchers?)
2. Why do you think the research component is an important aspect of the initial teacher education?
3. What library and ICT resources are available at your teacher's colleges that are meant to promote the effective delivery of the research curriculum?
4. How do research lectures student teachers get in PSC compare with those delivered in areas such as Theory of Education, Applied Education, Main Subjects and Professional Studies Syllabus 'A'?
5. What is your comment on the quality of CAR projects produced by the final year student teachers at your college?
6. What measures are in place at your college to ensure that student teachers receive the rightful CAR projects' theory and subsequent supervision?
7. To what extent do you think such measures are of benefit to the students?
8. Did you have adequate opportunity to interface with your project supervisees? Comment on your response.

Objective 2: Identification of the challenges faced in the delivery of classroom action research in teachers' colleges

1. Comment on the involvement of lecturers, mentors and school heads in the student teachers' research work.
2. In your opinion, what could be hindering the smooth running of the CAR programme at your institution?
3. What would you like to see happening for the successful implementation of your college's CAR programme?
4. Comment on how good, in general, are your colleague lecturers in helping students through their CAR projects?

5. What problems do the lecturers encounter in assisting students through their CAR projects?
6. What possible solutions do you have to each of the encountered problems?

Objective 3: Identification of opportunities for the enhancement of CAR in initial teacher education and development.

1. What major changes in the delivery of educational research or CAR projects in teachers' colleges would you suggest?
2. What do you see as the future of student teachers who undertake CAR projects during their initial teacher education?

Objective 4: Formulation of recommendations on short, medium and long-term strategies that may form the basis for policy interventions to improve the delivery of classroom action research in teachers colleges.

1. In what ways do you think the development of student teachers into action researchers may be improved in teachers' colleges?
2. How do you think the current teaching of educational research in teachers colleges may be improved?
3. Given the chance to formulate policy with regard to the delivery of CAR projects in teachers' colleges what would you do differently?
4. Is there a question you think the researcher did not ask but should have been asked, with regard to the issue under investigation?

APPENDIX O: Focus Group Interview Schedule for Student Teachers

Introduction

In administering the focus group interview, the researcher started off by introducing himself to the participants. He took this opportunity to reiterate the purpose of the research. Associated focus group ground rules were outlined to ensure that the conferencing was done orderly, according all participants the professional respect they deserve. Permission was sought and granted to audio-tape the group interviews using a digital voice recorder (Livescribe 3 Smartpen).

Objective 1: Description of the status of classroom action research/teacher research projects at one's teachers' college in the context in which it is delivered.

1. Describe how your college develops or prepares candidates into prospective teacher researchers?
2. What library resources are available at your teachers' college to promote the effective delivery of the research programme?
3. How do the lectures you take in PSC or educational research compare in depth and frequency with those in areas such as Theory of Education, Applied Education, Main Subject and Professional Studies Syllabus 'A'?
4. How would you rate the quality of research lectures you receive prior to embarking on your CAR projects?
5. How helpful was your project supervisor?

Objective 2: Identification of the challenges faced in the delivery of classroom action research in teachers' colleges.

1. In your opinion, what could be hindering the smooth running of the CAR component at your college?
2. What would you like to be done differently to see some improvement in college's CAR component?
3. How helpful were your lecturers, mentors and school heads as you undertook your CAR project?
4. Comment on how good, in general, your college lecturers are in helping students through their CAR projects?
5. What problems did you encounter in working through your CAR project?
6. What possible solutions do you have to each of the encountered problems?

Objective 3: Identification of opportunities for the enhancement of CAR in initial teacher education and development.

1. What major changes in the delivery of educational research or CAR projects in teachers' colleges would you suggest?
2. What do you see as the future of student teachers who undertake CAR projects during their initial teacher education?

Objective 4: Formulation of recommendations on short, medium and long-term strategies that may form the basis for policy interventions to improve the delivery of classroom action research in teachers colleges.

1. How best do you think the current CAR component may be improved at your teachers' college?
2. Is there any area of concern, with regard to the issue under investigation, you think the interview did not cover but should have been discussed?

APPENDIX P: Principal Researcher's Curriculum Vitae

A: PERSONAL DETAILS

Surname: Banda Forename: Wilson Sex: Male Date of Birth: 01.07.1966
Marital Status: Married Passport No: BN508786 (Zimbabwe)
National ID No: 29.131686.A.29 Languages: English, Shona, Chewa and Ndebele
Cellphone: +263 772 881 050 E-Mail: wilsonbda@gmail.com; 201503128@ufh.ac.za
Correspondence Address: 256 Samora Machel Avenue East, Eastlea, Harare,

B: EXECUTIVE SUMMARY

Wilson is an Educator by profession, having risen over the education professional ranks from a classroom practitioner, through to a school head and teacher educator in the period 1989 to 2008. He is a versatile educator and education manager driven by the reflective practice trajectory. Wilson is the Membership Services and Training Officer of the Zimbabwe Institution of Engineers whose major responsibility is to establish, implement and supervise the Institution's continuous professional development (CPD) initiatives. Additionally, he superintends the institution's day-to-day membership services and career guidance strategies. He brings with him to the institution a repository of CPD strategies, after having served as an educator of repute in the Zimbabwean education system for approximately two decades. Mr. Banda is an avid reader and author. He has co-authored several refereed journal papers, primary education passbooks and a series of academic articles. His research interest is in reflective teaching of Science subjects and Language Arts at both elementary and secondary school levels; environmental concerns; educational management; classroom pedagogy and the plight of orphans and vulnerable children. Mr. Banda is a revered community leader and a University of Zimbabwe post-graduate. He obtained the following qualifications from the said university: M.Ed. (Curriculum and Arts Education), B.Ed. (Primary) and Certificate in Education, among other professional qualifications. Wilson is currently a PhD student at the University of Fort Hare-South Africa.

C: PROFESSIONAL QUALIFICATIONS

- 1. Master of Education Degree (Curriculum and Arts Education)**
University of Zimbabwe 2003- 2004 Specialisation Area: Curriculum Theory.
- 2. Bachelor of Education Degree (Primary Education)** University of Zimbabwe: 1998 - 1999 *Specialisation Area:* Educational Management
- 3. Certificate in Education (Primary) 1985- 1988** Mkoba Teachers' College (Gweru - Zimbabwe) *Academic Area:* Geography *Courses Passed:* Geography, Theory of Education, Applied Education and Teaching

- Practice.
4. **Diploma in Comprehensive General Agriculture** (1992) Transworld Education College (UK)

D: ACADEMIC QUALIFICATIONS

- a) Advanced Level (Sociology, Geography and Divinity)
- b) Ordinary Level: 7 subjects passed (Inclusive of English Language, Mathematics and Science)

E: WORK EXPERIENCE

- a. **Membership Services and Training Officer** (1 August 2008 to date) Zimbabwe Institution of Engineers.

Main Key-Result Areas: Co-ordinates the Institution's membership recruitment drive activities, by organising ad hoc visits to universities, technical polytechnics, high schools etc.; oversees the Institution's membership application process and to administers its training programmes, in line with the Institution's standard operating procedures; and Acts as the in-charge, when the CEO is away.

- b. **Principal Lecturer:** Morgan ZINTEC Teachers' College (01.01.2005 to 30 November 2008) *Teaching Areas:* Professional Development Studies; Language Arts (ESL) and Computer Studies.

- c. **Primary School Teaching Experience** a) *Class Practice:* 1989 to 1996 (Taught all primary school subjects) b) *Acting School Head:* 08.02.1996 to 31.12. 2004 NB: Appointed Substantive Deputy Head on 01.05.2001.

- d. **Undergraduates Part-Time Teaching** [Zimbabwe Open University (2006 to 2010) and Gateway Teacher Training Programme (2005 to 2008)] *Subjects/Courses Taught:* Professional Studies, Reading Processes, Computer Application; Educational Management; Psychology and Sociology.

F: NOTABLE PUBLICATIONS

- i. (2014) Treasure Pearls Grade 7 English Pass Book. Harare: Treasure Pearls.
- ii. (2010) *co-authored*. Financial Management in Zimbabwean Non-Government Schools: Are school heads left to fumble in the darkness? Journal of Educational Studies. Vol.9 (1) 2010:139-155.
- iii. (2007) *co-authored*. The effects of psychosocial problems on the academic pursuit of AIDS orphans in Zimbabwe. TNJGC. Vol.12 (1):1-15
- iv. (1994:16) Teachers Should Certainly Be Rewarded. Teacher in Zimbabwe (TIZ)
- v. (September TIZ 1994) Scheming and Planning not a Burden
- vi. (September, 1993:29 TIZ 3/9) Economic Development versus the Environment.

- vii. (April, 1993:7 TIZ) Music and other subjects
- viii. (1986) Alcoholism and Drug Dependency. Midlands Educational Magazine.
Gweru: Mambo Press.

G: REFEREES

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APPENDIX Q: Criteria for the evaluation of CAR projects

Adapted from Demircioglu (2008:17)

Description		Rating					Remarks
		Poor	Average	Satisfactory	Good	Very Good	
		1	2	3	4	5	
Title Page							
1	How clear is the research title?						
2	How reflective of the entire CDS project report is the title?						
Abstract (maximum 250 words)							
3	How good is the explanation of the main purpose of the research?						
4	How good is the outline of the sample of the research?						
5	How well is the outline of research methods						
6	How good is the explanation of the data-collection instruments?						
7	How well is the data analysis described?						
8	Are the main results and recommendations well mentioned?						
Purpose of Study							
9	Is the purpose of the research clearly explained?						
10	How well is the research problem explained?						
11	How well explained are the research aims or objectives?						
Reviewed Literature							
12	How well reviewed are main books, papers, conference proceedings and internet resources regarding the research?						
13	How good is the explanation for the context and background of the study?						
Methodology							

14	How good is the explanation for the methodology used in the research?						
15	How well explained are the methods and techniques employed in the CDS project						
16	How good is the description of the data-collection tools used in the research?						
17	How well explained is the data analysis?						
18	How well are ethical procedures						
Statement of Results							
19	How good is the outline of the main findings of the research?						
20	How clearly presented, through tables, figures or text are the main research						
21	How well identifiable are the research tables and figures through say numbering and						
Analysis and Discussion							
22	How well analysed and discussed are the main findings of the research?						
Summary and Conclusion							
23	How well are the main research findings summarised?						
24	How well are the main conclusions presented?						
25	How good are the recommendations offered in light of the data gathered?						
26	How consistent are the recommendations with the data gathered?						
List of References							
27	How is the adequacy of consulted references? (i.e., books, papers, conference proceedings and Internet-based resources at least 10 should be cited)						
28	How correct are the cited references? (APA style)						
TOTAL							
Overall Percentage Score							

APPENDIX R: Typology of Mixed Methods Research Legitimation

(Adapted from Onwuegbuzie and Johnson, 2006)

Legitimation Type		Description
1	Sample integration	The extent to which the relationship between the quantitative and qualitative sampling designs yield quality meta-inferences.
2	Inside-outside	The extent to which the researcher accurately presents and appropriately utilises the insider's view and the observer's views for purposes such as description and explanation.
3	Weakness Minimisation	The extent to which the weakness from one approach is compensated by the strengths from the other approach.
4	Sequential	The extent to which one has minimised the potential problem wherein the meta-inferences could be affected by reversing the sequence of the quantitative and qualitative phases.
5	Conversion	The extent to which the quantising or qualitisising yields quality meta-inferences.
6	Paradigmatic Mixing	The extent to which the researcher's epistemological, ontological, axiological, methodological and rhetorical beliefs that underlie the quantitative and qualitative approaches are successfully (a) combined or (b) blended into a usable package.
7	Commensurability	The extent to which the meta-inferences made reflect a mixed worldview based on the cognitive process of Gestalt switching and integration.
8	Multiple validities	The extent to which addressing legitimation of the quantitative and qualitative components of the study result from the use of quantitative, qualitative, <i>and</i> mixed validity types, yielding high quality meta-inferences.

9	Political	The extent to which the consumers of mixed methods research value the meta-inferences stemming from <i>both</i> the quantitative and qualitative components of a study.
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