



UNIVERSITEIT VAN PRETORIA  
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Developing a strategic pedagogy in primary teacher education for effective continuous  
assessment implementation in Malawi

By

Chokocha Mathias Selemani-Mbewe

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in Assessment and Quality Assurance

in the Faculty of Education,

University of Pretoria

Supervisor: Professor M. C. Long

Co-supervisor: Professor Sonja van Putten

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## DECLARATION OF ORIGINALITY

I declare the thesis which I hereby submit for the degree Philosophiae Doctor in Assessment and Quality Assurance in the Faculty of Education, University of Pretoria is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution

SIGNED



Chokocha. M. Selemani-Mbewe

DATE

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The author, whose name appears on the title page of this thesis, has obtained for the research described in the work, the applicable research ethics approval. The author declares that he has observed the ethical standards required in terms of the University of Pretoria's Code of ethics for researchers and Policy guidelines for the responsible research



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CC:

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PhD

Developing a strategic pedagogy in primary teacher education for effective continuous assessment implementation in Malawi

Mr Chokoca Mathias Selemani-Mbewe

Science Mathematics and Technology Education

25 June 2013

02 December 2021

A handwritten signature in black ink, appearing to read 'Funke Omidire', written over a horizontal line.

Ms Thandi Mngomezulu

Prof Caroline Long

Prof Sonja van Putten

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## ABSTRACT

*The Primary Curriculum Assessment Reform (PCAR) introduced in Malawi in 2007, positions continuous assessment, the integration of teaching, learning and assessment, at the core of the curriculum. However, most teachers in Malawi have had no dedicated training in effective continuous assessment pedagogy, and this limitation, among other reasons, makes it particularly difficult to implement continuous assessment. While teachers may not implement continuous assessment effectively due to contextual factors such as school leadership, lack of resources, pressure from high stakes examinations, large classes, and a too demanding teacher workload, effective teacher preparation that uses appropriate instructional pedagogy can enable teachers to effectively implement continuous assessment in the schools. Improving the competence of pre-service primary school teachers during training is very critical for effective continuous assessment implementation.*

*Research on teacher competence in the area of learner assessment indicates that teachers face many challenges. World over, there is an outcry that alludes to the fact that teachers are not properly trained in the area of assessment during their pre-service training. In Malawi, teachers who were oriented in the new curriculum and recent graduates from the Teacher Training Colleges (TTCs) who are taught using a reformed teacher training curriculum that was aligned with the new national primary curriculum (NPC) referred to as primary curriculum and assessment reform (PCAR) face difficulties in implementing it.*

*This study was conceptualised and implemented using education design research, in a purposefully and conveniently sampled pre-service primary teacher training college, to design, develop and try out a pedagogy that lecturers in teacher training colleges in Malawi could use when preparing primary school teachers so that they are able to implement CA effectively.*

*The overall aim of this study was to investigate, understand and develop the features needed for the design and development of an effective continuous assessment pedagogy that lecturers in pre-service primary teacher education programmes in Malawi could use when preparing primary school teachers for the implementation of continuous assessment.*

*The main research question that guided the study was: What are the characteristics of a strategic pedagogy that lecturers in primary teacher training colleges (TTCs) in Malawi could use for pre-service primary teacher preparation for effective continuous assessment (CA) implementation?*

*Data collection during the baseline phase included the administration of a questionnaire to both the lecturers and the pre-service teachers; lecturer room observation of twenty-two*

*lectures; document analysis, and focus group discussion with some lecturers and college administration. Presentations and oral interviews were carried out with subject matter experts aimed at understanding their perspectives on what a primary school teacher should know, and be able to do when implementing CA. Formative and summative evaluation of the prototypes were implemented to determine the relevance, consistency, practicality and effectiveness of the intervention.*

*The iterative cycles of the prototypes led to a strategic pedagogy that emerged as feasible. Design guidelines for the strategic pedagogy and recommendations have been suggested.*

#### **KEYWORDS**

*Initial teacher education, pre-service teachers, continuous assessment, design-based research, strategic pedagogy, teacher education, assessment, formative assessment, deliberate practice pedagogy, direct instruction*

## CERTIFICATE OF EDITING FROM MR. CHOKOCHA SELEMAN-MBEWE



University of Johannesburg  
Faculty of Education  
Auckland Park and Kingsway Campus  
P.O. Box 524  
Code 2006  
Johannesburg

Phones: +27115592902; +27818392376; +27721453562; +27619400582

8 December, 2022

To Whom It May Concern

**SUBJECT: CONFIRMATION OF PROFESSIONAL EDITING FOR MR SELEMAN CHOKOCHA MBEWE'S THESISs (STUDENT NUMBER 12293602)**

This letter serves to certify that we have professionally edited Mr. Mbeve's PhD thesis: **"Developing a strategic pedagogy in primary teacher educator institutions for effective continuous assessment implementation in Malawi"**.

As an academic practice, we mainly focused on substantive editing and technical editing so that both the content and language issues were fully addressed. This meant checking the text more broadly for sense and accuracy; factualness and easiness of use; suitability and language appropriateness; relevance and consistency of tables and figures, and consistency of in-text citations and references.

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Most importantly, we made recommendations on presentation of arguments as well as adequacy of the evidence provided in support of each argument to make sure that the writer does not remain at mere descriptive level of his studies. Precisely, there were many corrections that were made to the text in this document, through track-changes and comments which can be accessed from the student's file. We therefore recommend that, while working to effect (drop) the track-changes, he should also consider our comments made in the margins which demand making some relative shifts and amendments to the text to augment the arguments.

In the main, we found this work very useful and well written. There was significant evidence that the student had proofread the work to clear obvious errors. Those errors, we picked are very much technical in nature and probably beyond the comprehension of a PhD student in Education Studies, because they were linguistic in nature. The overall thesis, from the introduction, methodology, literature review to the conclusion, we found it well written minus those issues highlighted and probably the length which is somehow very long. We cannot comment on each and every chapter in this report since we have already done an extensive job in the document. Otherwise, this thesis, is easy to follow; logically presented;

coherent, and of good length. The literature review, in particular, is also up-to-date and relevant; the methodology is appropriate, and the theoretical framework holds the study together. Similarly, the conclusions are very clear; areas for further studies, and the limitations have been articulately presented. In terms of its contributions, this study does present a body of new knowledge not only in Curriculum Studies but also in Educational Foundations, and other social sciences. Such knowledge may help researchers, educators, policy-makers and students alike for their academic and research work. There is also evidence of wider reading which has provided alternative information necessary for critiquing the findings.

We hope that once the student has duly dropped all the corrections (edits) as we have suggested in the main document, this thesis is ready and fit for any purposes. We therefore have all the feeling that this thesis is in the best possible form for further assessment by any external examiners should there be any need.

We wish the student and all those who will work on this project good luck. For any information, please contact us on those emails phones.

Sincerely yours,

**Professional English Language editor**

*Chibambo\_*

Mackenzie Chibambo.

Lecturer in Communication Studies, Mzuzu University and

PhD student (Philosophy of Education), University of Johannesburg, APK, South Africa; MA (Publishing and Creative Writing) (Kingston University London); MA (Communication) New Orleans; B.Ed. (Languages) University of Malawi; Email: [mackchibambo@gmail.com](mailto:mackchibambo@gmail.com)

**Substantive and Content Editor**

*Divalaj*

Joseph Jinja Divala (PhD)

Professor in Philosophy of Education

University of Johannesburg; Faculty of Education; Department of Curriculum and Teaching Studies; Auckland Park Kingsway Campus  
Email(s): [jdivala@uj.ac.za](mailto:jdivala@uj.ac.za)

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## ABBREVIATIONS

ABC	African Bible College
ADDIE	Analysis Design Development Implementation and Evaluation
AfL	Assessment for Learning
AIDS	Acquired Immunodeficiency Syndrome
ALIC	Assessment for Learning in International Contexts
B. Ed	Bachelor of Education
CA	Continuous Assessment
CAC	Continuous Assessment Content
CACK	Continuous Assessment Content Knowledge
CAPCK	Continuous Assessment Pedagogical Content Knowledge
CASCADE-SEA	Computer Assisted Curriculum Analysis, Design and Evaluation for Science Education in Africa
CK	Content Knowledge
CPD	Continuous Professional Development
CPTT	Conventional Primary Teacher Training
CSO	Civil Society Organisation
CUNIMA	Catholic University of Malawi
CWED	Central West Education Division
DBE	Director for Basic Education
DC	District Commissioner
DCE	Domasi College of Education
DFA	Director of Finance and Administration

DHR	Director for Human Resources
DHRMD	Department of Human Resources Management and Development
DI	Direct Instruction
DIAS	Director for Inspectorate and Advisory Services
DP	Deliberate Practice
DP	Director for Planning
DR	Design Research
DSHE	Director for Secondary and Higher Education
DTED	Department of Teacher Education
EFA	Education for All
ED	Education Division
EDM	Education Division Manager
EFS	Education Foundation Studies
EQUIP	Enhancing Quality through Innovative Policy and Practice
ESIP	Education Sector Implementation Plan
FE	Formative Evaluation
FGD	Focus Group Discussion
FPE	Free Primary Education
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
IEQ	Improvement of Education Quality
INSET	In-service Training
IPTE	Initial Primary Teacher Education

## CONTINUOUS ASSESSMENT PRE-SERVICE PRIMARY TEACHER EDUCATION IN MALAWI

ITE	Initial Teacher Education
JCE	Junior Certificate of Education
KAPCA	Knowledge Attitude and Practice of Continuous Assessment
LOIL	Language of Instruction and Learning
LU	Livingstonia University
LUANAR	Lilongwe University of Agriculture and Natural Resources
MAGU	Malawi Assemblies of God University
MANEB	Malawi National Examinations Board
MAU	Malawi Adventist University
MCP	Malawi Congress Party
MDGs	Millennium Development Goals
MGDS	Malawi Growth and Development Strategy
MI	Multiple Intelligences
MIE	Malawi Institute of Education
MIITEP	Malawi Integrated In-service Teacher Education Programme
MLS	Malawi Law Society
MoESC	Ministry of Education Sports and Culture
MoEST	Ministry of Education Science and Technology
MSCE	Malawi School Certificate of Education
MUST	Malawi University of Science and Technology
MZUNI	Mzuzu University
NASFAM	National Association of Smallholder Farmers of Malawi
NESP	National Education Sector Plan

## CONTINUOUS ASSESSMENT PRE-SERVICE PRIMARY TEACHER EDUCATION IN MALAWI

NGOs	Non-Governmental Organisations
NPC	National Primary Curriculum
NU	Nkhoma University
OBA	Outcomes-Based Assessment
OBE	Outcomes-Based Education
ODL	Open and Distance Learning
PCAR	Primary Curriculum and Assessment Reform
PCK	Pedagogical Content Knowledge
PEA	Primary Education Advisor
PEMAs	Principal Education Methods Advisors
PhD	Doctor of Philosophy
PIF	Policy Investment Framework
PPDPE	Plan Present Demonstrate Practice and Evaluate
PS	Principal Secretary
PSLCE	Primary School Leaving Certificate of Education
PTDPE	Plan Teach Demonstrate Practice and Evaluate
PTE	Primary Teacher Education
SACMEQ	Southern and Eastern Africa Consortium for Monitoring Education Quality
SADC	Southern Africa Development Community
SEED	South East Education Division
SEMAs	Senior Education Methods Advisors
SMASSE	Strengthening the Teaching of Mathematics and Science Education

SMEs	Subject Matter Experts
SNE	Special Needs Education
SP	Strategic Pedagogy
SPI	Strategic Pedagogic Intervention
SPSS	Statistical Package for the Social Sciences
SSCAR	Secondary School Curriculum and Assessment Review
SWED	South West Education Division
TALULAR	Teaching and Learning Using Locally Available Resources
TDCs	Teacher Development Centres
TEVETA	Technical Entrepreneurial and Vocational Authority
TME	Testing Measurement and Evaluation
TP	Teaching Practice
TTC	Teacher Training College
TTCs	Teacher Training Colleges
TUM	Teachers Union of Malawi
UDF	United Democratic Front
UEE	University Entrance Examination
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations Children's Fund
UNIMA	University of Malawi
UPE	Universal Primary Education
USAID	United States Agency for International Development

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## **DEDICATION**

I would like to dedicate this thesis to my loving parents, Mathias Selemani, late Margaret Sandalamu and Wyson Selemani for their unwavering support that has made me who I am today. May God continue blessing you, and may your souls rest in peace.

## **CNCHAPTER 1**

### **INTRODUCTION AND BACKGROUND TO THE STUDY**

#### **1.1 Introduction**

The overall aim of this study was in twofolds: firstly, to investigate and understand the pedagogies that lecturers in pre-service primary teacher education programmes in Malawi used as they prepared pre-service primary school teachers for continuous assessment implementation in the schools, and secondly, to identify and understand the design principles and characteristics needed to design, develop and evaluate an effective strategic pedagogy in a collaborative manner so that it could be used in pre-service teacher education.

This chapter presents an overview to the study. It begins with a background to the study (section 1.2) which presents the reasons integration of teaching, learning and assessment in general is important and presents reasons for its adoption in Malawi, in particular. The discussion also focuses on the Primary Curriculum and Assessment Reform (PCAR) process, and how the PCAR was actually designed, developed and rolled out which necessitated that the primary teacher education curriculum should be reformed to align itself with the changes that took place at the primary school level. Section 1.3 presents the problem statement and section 1.4 is the rationale for the study. Sections 1.5 and 1.6 present the aim of the study and the purpose of the study, respectively. The research questions and sub-questions have been presented in section 1.7 while the significance of the study has been presented in section 1.8. The research design used in the study has been presented in 1.9 while section 1.10 has presented the limitations and delimitations of the study. The structure of the thesis highlighting the content of each chapter has been presented in section 1.11. The final section (1.12) has presented the conclusion for this chapter.

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

##### **1.2.1 Integrating teaching learning and assessment**

Many countries around the world are striving to improve their education. In Malawi, efforts have been made by the Malawi Government through the Ministry of Education Science and Technology (MoEST) to improve the quality, access and relevance of education. The number of policies in the education sector that speak about quality, access and relevance attest to this vision (PIF, 2000; NESP, 2008; Vision, 2020). These policies align themselves well with international policies such as Education for All (EFA) (UNESCO, 1990); Millenium Development Goals (MDGS II), (Government of Malawi, 2011) and Sustainable Development Goals (SDGs) (2015) just to mention but a few. In order to put the policies into practice, a

number of educational reforms have been made in both the curriculum taught as well as in the pre-service teacher preparation programme. These included, among others, the primary curriculum and assessment reform (PCAR) and the introduction of initial primary teacher education (IPTE) at the primary school and primary teacher education level respectively, and the secondary school curriculum and assessment review (SSCAR) at the secondary school level.

Internationally, improving the quality of education has been recognised as the pre-requisite for sustained economic growth and development. Although some authors have pointed out the multifaceted nature of the term “quality” (Blom, 2008), and “quality education” (UNICEF, 2000), there is a general feeling and consensus that quality education is a relative term and is contextual (Blom, 2008). For example, Blom (2008, p. 288) states that “quality” may indeed mean different things to different people, but where a group of interested parties, such as the management and staff of an institution have specifically defined what they mean by quality, this becomes measurable, and therefore can be monitored and, if necessary, get adapted.

Literature indicates a number of factors that can contribute to quality education. For example, the level of education of the teachers; the resources available; community support, and learner enthusiasm. Irrespective of the on-going debates as to what constitutes “quality education”, improvement in assessment methods is one aspect that has been observed to improve quality of education. For example, there is a general agreement on the important roles assessments could play in bringing about quality education (Kellaghan & Greaney, 1992; Ottevanger, Van den Akker, & Feiter, 2007). Noting the importance of the roles of assessments in improving quality education, governments, departments of education and non-governmental organisations world over have put in place programmes and strategies aimed at enhancing assessment to improve learning. An assessment in this context is defined as a process of collecting information purposefully using different methods/strategies and tools for the purposes of informing teaching and learning. It could also mean “set of activities that measure the outcomes of student’s learning in terms of knowledge acquired, understanding developed, and skills gained against the set success criteria and assessment standards” (MoEST, 2009, p. 5).

Literature suggests that the effect of assessment in improving learner achievement is even more pronounced when formative assessment is employed in the process (Black & William, 1998). Through their seminal paper, these authors contend that when assessment is made integral to the learning process involving the learners in self-assessment and peer assessment, it provides learners with information and feedback concerning the quality of their

individual learning. This kind of assessment has been described as either formative assessment (Black & Wiliam, 1998) or assessment for learning (AfL) (Wiliam, 2009).

In Africa, curriculum reforms prompted by economic changes, growth of information technology and provision of quality and relevant education in countries like Nigeria, Ethiopia Ghana, South Africa, Namibia, Mozambique, Swaziland, Zambia and Malawi have emphasised integration of teaching, learning and assessment through the adoption of outcomes-based education (OBE) that integrates participatory teaching methods (active learning pedagogies) and a continuous monitoring of student learning as opposed to an objectives based curriculum.

Continuous assessment (CA), which in this study has been used to mean what Black and Wiliam (1998) and Wiliam (2009) referred to as 'formative assessment' and 'assessment for learning' (see Chapter 3), has been proved to improve student learning through the feedback learners get from an assessment activity (Black & Wiliam, 1998). It is this realisation of the importance of CA in education that has led to educational policy reforms in the area of assessment in the countries which introduced CA and which eventually resulted in paradigm shifts in curriculum content and methodology (Kamangira, 2003; Kapambwe, 2010; Makotedi, 2011; Singh, 2004).

### **1.2.2 The primary curriculum reform process in Malawi**

Curriculum reforms in Malawi, like in other countries, have been carried out to improve access, quality, equity, and relevance of education following global education policies such as the Education for All (EFA) (UNESCO, 1990; UNESCO, 2000), and the Millennium Development Goals (MGDS) II (Government of Malawi, 2011). For example, the national macro and micro socio-economic policy plans such as the Malawi Growth and Development Strategy (MGDS) II (Government of Malawi, 2011); the Education Sector Policy and Investment Framework (Government of Malawi, 2000); the National Education Sector Plan (NESP 2008-2017) (MoEST, 2008), and the Education Sector Implementation Plan (ESIP) (Government of Malawi, 2009) all recognised provision of quality, accessible, relevant and equitable basic and secondary education as key to national development. Furthermore, the revised Policy and Investment Framework (PIF) (Government of Malawi, 2000) that acts as a road map for 2000-2012 which was developed after the Dakar Declaration (UNESCO, 2000), as strategies for responding to the challenges that Malawi encountered due to increased enrollment after the introduction of free primary education (FPE), highlighted the issue of quality. It states that:

“The third objective is to maintain and improve the quality and relevance of education. Quality improvement will be addressed by strategies, which aim to combine the right

inputs (good physical infrastructure, qualified teachers, and adequate instructional materials), the right processes (good management, effective teaching/learning, effective supervision and fair examinations), and the right outputs (motivated and well-educated students, capable of contributing to the development of the nation. With regard to the relevance of Malawi's education system, the PIF calls for ongoing reviews of the curriculum to ensure that it addresses the needs of individual school-goers as well as those of the nation at large more effectively. Because adequate numbers of professionally qualified teachers are critical in promoting quality education, the PIF underlines the need for quality, and a sustainable teacher-training programme especially for primary and secondary institutions" (Government of Malawi, 2000, p. viii).

One of such reforms enacted by the Malawi Government through the Ministry of Education Science and Technology (MoEST) following the above-mentioned policy statement was the introduction of a new outcomes-based education (OBE) primary curriculum known as Primary Curriculum and Assessment Reform (PCAR) (MoEST & Malawi Institute of Education (MIE), 2006; MoEST, 2009). This new curriculum, which was conceptualised in 2001, and got implemented in 2007, integrates teaching, learning and assessment. A description of the curriculum is provided below.

### **1.2.3 The curriculum design, development and roll out**

There have been changes in the primary education system in Malawi. One of these changes was more pronounced in 1994 when Malawi adopted free primary education (FPE) in order to increase access to basic education. This was also in response to the call for education for all (EFA) of the Jomtien Declaration which was championed by UNESCO. It was the adoption of FPE that resulted in a 59% sudden increase in enrollment. This increase, in turn, brought with it some educational challenges such as the need for more qualified teachers, classroom space, and additional teaching and learning resources. On this, Kamangira (2003) observes that the teacher to pupil ratio rose from 35 to 123 in many districts, and in some extreme cases, it reached 192 as was the case in Mangochi district. In order to reduce the teacher to pupil ratio, the Malawi Government introduced a new primary teacher training programme to fast track the training of the teachers through a teacher education programme known as the Malawi Integrated In-service Teacher Education Programme (MIITEP) (Stuart & Kunje (2000). It was a programme in which trainees, after attending an intensive three-month classroom work on teaching methodology, went to teach for a year before returning to the college to finish course-work and take examinations for full certification (Kamangira, 2003). Kamangira reports that a total of 18000 teachers were trained through the MIITEP.

In 2000, a baseline survey of primary school pupils in Mangochi and Balaka districts, which also coincided with a nationwide longitudinal Southern and Eastern Africa Consortium for Monitoring Education Quality (SACMEQ) study, revealed low learner achievement. These findings revealed that Standards 2, 3 and 4 pupils (ages 7, 8 and 9) were unable to read and write in English and Chichewa (Mchazime, 2003). Besides this, their numeracy skills left much to be desired. This scenario then demanded some interventions and innovations at classroom level, to stabilise and make the FPE effectively work in Malawi. The MoEST in conjunction with the United States Agency for International Development (USAID) suggested that one of the alternative solutions could take the line of continuous assessment (CA) instead of pedagogy itself. The primary objective of this CA was to improve pupil performance through a teacher development process (Kamangira, 2005).

The decision to integrate CA in the new primary curriculum in Malawi was, in the first place, an attempt to improve the quality of primary education in Malawi. There was a strong belief that CA, when implemented effectively, would increase achievement and reduce the repetition and drop-out (attrition) rates. This improvement would be achieved by providing effective supportive learning environments in the form of remedial and enrichment activities, which would eventually result in all learners succeeding. On the other hand, it is also argued that the reform was motivated by the success story from the findings of a USAID funded EQUIP II Improving Education Quality (IEQ) continuous assessment feasibility study which was conducted in Malawi in Ntcheu district (Kamangira, 2003).

This new primary outcomes-based education (OBE) curriculum presented a paradigm shift from the traditional teacher-centred to learner-centred education.

While there are different definitions of continuous assessment (Falayajo, 1986), in Malawi several definitions of CA are available. For example, the Improvement of Education Quality II (IEQ II) team defined CA as a way of finding out what pupils know, understand and can do (Mchazime, 2003, p. 5). By extension, CA is said to be an ongoing, diagnostic and school-based assessment that uses a variety of tools to measure learner's performances and achievements in a number of prescribed skills for the particular level. From these definitions, it is evident that CA is a classroom strategy that is implemented by teachers to ascertain the knowledge, understanding and skills attained by pupils. The information is used to understand what a learner already knows or can do, and what he/she does not know or is unable to do. The purpose of implementing CA therefore is to improve student learning (assessment for learning) through the continuous provision of feedback from the assessment activities carried out by the classroom teacher. For the purpose of this study, CA is defined as regular activities undertaken by teachers in the process of learning and teaching to determine what learners

know, understand and can do using a variety of assessment tools in order to improve learning experiences.

Secondly, the motivation to integrate teaching, learning and assessment into the new national curriculum was based on the recommendations from the various consultative meetings, and a national conference on education in Malawi that were held prior to the introduction of PCAR. (Kamangira, 2003). Based on those recommendations, a decision was made to develop a new national primary school curriculum, and a teacher education curriculum that integrated teaching learning and assessment. In this new primary curriculum, primary school teachers implement CA during teaching and learning to monitor the progress learners are making in order to improve learning and attainment. It can therefore, be argued that the impetus for primary curriculum reform was indeed, as Tatto (2006, p. 232) states, a “manifestation of globalisation” as well as “institutional” pressures. It could then be argued that primary curriculum reform was in response; firstly, to the global pressures to provide quality education as demanded by the EFA initiative as well as a response to the institutional needs to improve the repetition and drop-out rates. In order to ensure that primary school teachers were well prepared for PCAR, the teacher education curriculum had to be reformed to align itself with PCAR hence the introduction of the initial primary teacher education (IPTE) which replaced MIITEP.

#### **1.2.4 Primary teacher education curriculum reform**

To ensure that graduates from the pre-service teacher education programmes were effectively prepared for OBE and CA implementation, a new teacher education approach in the Primary Teacher Training Colleges (TTCs) was introduced following the change in the primary school curriculum. It was known as the Initial Primary Teacher Education Programme (IPTE) or popularly known as 1 plus 1. (Malawi Institute of Education, 2017). This is a two-year course that consists of one-year college-based training in Teacher Training Colleges (TTCs), and another year of practicum in primary schools. The college-based training has three terms, each one of them lasting 14 weeks. During this period, pre-service teachers are introduced to both education foundation courses such as educational psychology, school management and administration, and principles of testing, measurement and evaluation, and pedagogic content knowledge (PCK) in the subjects taught in primary schools. The PCK of CA is supposed to be taught and learned in the education foundation courses as well as practised in the content course methodologies. Just like PCAR, the IPTE curriculum espouses student-centred and participatory pedagogy, and does emphasise the integration of CA in the curriculum to align itself with changes introduced in PCAR.

The teacher education curriculum reform that followed the primary curriculum reform was a decision in the right direction. If primary school teachers were to effectively implement PCAR, which emphasises participatory teaching strategies and CA in the schools, there was need for them to be effectively prepared in the participatory pedagogies and CA implementation during their pre-service training.

It is not surprising then that curriculum changes at primary school level directly impact on teacher education. It was, therefore, assumed that pre-service teachers who were equipped with the relevant knowledge, skills, attitudes and pedagogies during the pre-service training would be able to, not only prepare lessons that were learner centred, but also prepare lessons that contained well planned activities that would be used to continuously monitor the progress of the learners. Hence, the importance of pre-service primary teacher education in the preparation of primary school teachers, who are capable of implementing PCAR in general and CA in particular, cannot be overemphasized. Firstly, it acts as the foundation stage in the process of teacher development where pre-service primary school teachers encounter both the curriculum and the pedagogical content knowledge of CA for their subsequent use in the primary schools.

Secondly, thorough preparation in the processes and procedures in CA implementation would equip the pre-service teachers with the necessary knowledge, skills, values and attitudes that would ease their work of CA implementation. More importantly, recognising the fact that teaching is a very complex activity, which becomes even more complex when assessment is integrated in the teaching and learning process and also the general concern that teachers are ill-prepared in the area of assessment, it was necessary that teachers should receive basic assessment training during their pre-service training. On the importance of having well prepared pre-service teachers, Haddad et al. (1990) noted that well prepared pre-service teachers would not only contribute to educational development but would also likely improve the standard of education and learning of pupils. On the important role that teachers play, Delors (1996, p. 141) asserted, “teachers have a crucial role to play in preparing young people not only to face the future with confidence but also to build it with purpose and responsibility”. It could therefore be said that for teachers to be able to perform well for their world of work, thorough preparation was vital.

In summary, CA was introduced in Malawi in order to address the shortfalls that were observed in the previous curriculum as evidenced from the assessment needs and the general concerns of the education system in Malawi (Kadzamira et al, 2004; MoEST, 2008; Susuwele-Banda, 2005). A decision was therefore made to make assessment integral in the teaching and learning process. By making assessment integral, assessment results obtained during the



teaching and learning processes were to be used to determine learning achievement as well as to improve learning experiences. Assessment results were therefore to be used in supporting learners to improve or understand their strengths and weaknesses. In order for the system to achieve its aims, attention had to be given to the preparation of teachers through teacher education. The section that follows presents the problem statement for the study.

### **1.3 Problem statement**

Despite strides taken by governments to provide quality and relevant education through, among other things reforming the curriculum, teachers who are the curriculum implementers do face difficulties in implementing it. The core elements of PCAR which were introduced in 2007 were the use of learner centred pedagogies, and the integration of continuous assessment (CA) in the teaching and learning processes. Prior to the introduction of PCAR in Malawi in 2007, teachers and TTC lecturers were trained and oriented on how to implement the new curriculum in general, and how to implement CA, in particular. However, despite being orientated and trained, teachers were not implementing CA as it was intended.

The main challenges with CA implementation reported in the literature were inadequate quality of the training teachers received; lack of knowledge or technical strategies to implement CA in the classroom despite the training and orientation (Matiti, 2009), overcrowded classrooms and lack of confidence and competence of the teachers to implement OBE, and outcomes-based assessment (OBA) (Chiunda & Kuopsya, 2011; Chulu & Chiziwa, 2010). These similar challenges associated with CA implementation were also noted in Zambia (Kapambwe, 2010); Nigeria (Atsumbe & Raymond, 2012); as well as in South Africa (Matshidiso, 2007; Meyer et al., 2010). Earlier on, Kamangira had cautioned the challenges that CA might face if it was scaled up (Kamangira, 2003). A close examination of the challenges of CA seemed to have been derived from the nature of the teacher orientation or pre-service teacher education programme that was offered to these teachers (Chiunda & Kuopsya 2011; Kapambwe 2010; Makotedi, 2011; Singh, 2004). Moreover, the complex and tedious nature of CA implementation by most primary school teachers has also been noted by many studies (Kamangira, 2003; USAID/Malawi, 2008; MoEST, 2009; Atsumbe & Raymond, 2012). In short, it could be argued that the new national primary school curriculum in Malawi was not being implemented as intended by curriculum designers and developers.

On the other hand, teachers could only put into practice what they had learned, knew and understood. It would also be unrealistic to expect primary school teachers in Malawi to be able to implement continuous assessment effectively if the principles and practices of CA were not taught adequately during pre-service training. Like Grisay and Mahlek (1991) state, quality in

education begins with the development of relevant curricula; improvement of teacher preparation and methods of assessing pupils because any changes made to education cannot be effective without a reconsideration of teacher education as a whole. Acknowledging the complexity of implementing educational changes such as OBA, Bennett (2011, p. 20) argued, "...teachers need substantial knowledge to implement formative assessment effectively in classrooms".

It is, however, disheartening that eight years after PCAR was introduced in Malawi, teachers who were either oriented to CA and PCAR, (Kamangira, 2003), or trained through the IPTE programme were finding the procedures of implementing the OBE curriculum in general and CA in particular difficult (Chiunda, 2011; Chiunda, 2012; Chulu & Chiziwa, 2010; Matiti, 2009). Relative to this, primary school teachers have been observed implementing CA just for compliance and for its own sake (Matiti, 2009), use it infrequently, or shun it altogether (Dwyer, 1998; Marsh, (2007). Research further suggests that the superficial implementation of CA by teachers in the classrooms was due to, among other things, lack of technical skills; large class size as well as lack of motivation and fatigue (Chulu & Chiziwa, 2010; Kapambwe, 2010; Matiti, 2009). Considering the fact that the IPTE curriculum was aligned with PCAR, one would have expected that the teacher education training, that the pre-service teachers received, prepared them thoroughly well for effective CA implementation in the schools. However, although a number of studies have indicated the challenges associated with CA implementation in general, there has been no study that has specifically examined the pedagogies that the TTC lecturers used as they prepared the pre-service teachers for effective CA implementation in the schools let alone suggest or design a pedagogy that could be used for preparing these teachers for effective CA implementation in the schools. Consequently, no solution to improve teacher preparation for CA implementation in pre-service teacher education programmes has been sought; the very same crux that essentialises this current study.

#### **1.4 Rationale for the study**

Malawi's current education system as reflected in the Primary Curriculum Assessment Reform (PCAR) and the Secondary School Curriculum Assessment Review (SSCAR) emphasises OBE which integrates teaching, learning and assessment with CA placed at the core of the curriculum reform. However, most teachers in Malawi have no specific training in effective CA pedagogy which then makes it very difficult for them to implement CA. While teachers may not implement CA effectively due to contextual factors such as school leadership, lack of resources, pressure from high stakes examination, large class sizes, and too demanding teacher workload, it is argued in this study that use of effective pedagogies in the teacher preparation programmes for CA implementation may be key to its success.

In other words, lack of effective pedagogies for CA implementation, during the preparation of teachers in colleges, may prevent successful realisation of effective continuous assessment implementation in the schools. This presupposes the fact that TTC lecturers should possess and use some kind of knowledge of teaching strategies that would enable pre-service teachers implement CA effectively in the schools. The philosophical question that this study sought was “What kind of strategy should it be and how can it be enhanced? A related question at the confluence of epistemology and pedagogy, is how would the pre-service teachers acquire that knowledge? Essentially, knowledge of CA and effective pedagogy that can make it work in the actual classroom spaces is therefore considered paramount. This then suggests that teachers need to be thoroughly prepared in pre-service teacher education for them to be able to discharge their duties well during CA implementation. It is, therefore, important to identify, develop, and implement a teacher education pedagogy, which college lecturers could use when preparing pre-service teachers for continuous assessment implementation.

The question that puzzled the researcher was, “What pedagogy would be ideal for lecturers in TTCs to use when preparing pre-service teachers for effective CA implementation in primary schools?”

Although teachers go through general teaching methods that are aimed at helping them acquire knowledge and skills on how to teach their respective subjects as well as how to assess pupil learning experiences, it is important that a deliberate attempt is made to specifically prepare the pre-service teachers on the pedagogy (procedural knowledge) they should use to effectively implement CA in primary schools. The integration of CA with teaching is aimed to improve learning and help shape and direct the teaching and learning processes. For this to happen, there is a need to strategise the way teacher preparation for CA implementation is done in terms of methodology; hence, the use of the term “strategic pedagogy”. In this study “strategic pedagogy” is used to mean a methodology deliberately designed and used by lecturers in the TTCs during instruction aimed at ensuring knowledge and skills transfer and acquisition relevant for CA implementation in primary schools. Deliberate effort is needed to equip teachers with state-of-the-art knowledge and skills that will enable them not to only deliver what they are supposed to deliver (propositional knowledge) but also be able to adapt whenever faced with unfavourable conditions to achieve the desired expectations. Considering the context in which one becomes a primary school teacher in Malawi (see Chapter 2), a deliberate pedagogy in the preparation of primary school teachers for effective CA implementations appeared necessary.

Based on the above discourse, the rationale for the study was in five-fold: firstly, to understand how pre-service primary teacher educators prepared pre-service primary school teachers for

CA implementation. Such pre-service preparation undoubtedly affects teachers' CA implementation and practice (Eren & Tezel, 2010; Liang, Ebenezer, & Yost, 2010; Roness, 2010). To achieve this, an exploration of the strategies that pre-service primary teacher educators used in their teaching endeavours was carried out through the administration of lecturers and pre-service teachers' knowledge, attitudes and practice of CA (KAPCA) questionnaires. It also involved observing the actual lecture room activities during instruction and the opportunities they provided to the pre-service teachers that would enable them to discharge their duties with ease when implementing CA in the schools. Lecturer room observations were vital to determine if lecturers were providing a satisfactory learning experiences (Halim, S, Wahid, R, & Halim, T. (2018) necessary for CA implementation for the pre-service teachers and to identify weaknesses that led to the identification, design, development and evaluation of the strategic pedagogy (See chapter six) Knowledge about this shed light on the impact of their training on CA implementation in the schools.

Secondly, the study acted as an avenue for determining how lecturers actually responded to curriculum changes that took place at the primary school sector with the introduction of the new national primary school curriculum. A study conducted by Matiti (2009) revealed the gaps on how head-teachers and teachers experienced CA implementation issues in the primary schools even though the evaluation was carried out three years later after the new primary curriculum was rolled out. Although the findings of that study suggested weakness in the cascade model that was used when orienting the primary school teachers to the new primary curriculum, nothing had been said regarding whether the lecturers in the TTCs actually embraced the teaching approaches as advocated in the new primary curriculum as they prepared the pre-service primary school teachers for CA implementation. This cascade model of training teachers on aspects of CA implementation involved training a group of senior teachers first who in-turn trained others.

Furthermore, the study attempted to describe characteristics of effective solutions to the CA implementation problem. Literature, on the other hand, suggests that CA implementation is a complex problem in the countries that have tried to implement it. However, no empirical studies have been carried out to offer effective solutions to this complex CA problem. To this end, this study sought to identify, develop, and implement a teacher education pedagogy which teacher educators could use when preparing pre-service teachers hence making it very important.

Moreover, based on the outcome of the intervention designed, developed and tried out in successive iterations, the study would enrich the available literature through the development and description of the characteristics of an effective solution to the CA implementation problem by developing a set of specific design principles that would enable the transfer of the strategic

pedagogy to other settings. This innovation would contribute to the debate on how to bridge the theory and practice gap.

Finally, the findings of the study may have some impact on policy decisions on how pre-service teacher education programmes can best be designed to best help prepare primary school teachers for effective CA implementation. These findings may also impact how pre-service primary teacher education institutions respond to curriculum reforms that occur in the primary schools by introducing innovative teacher preparation pedagogies.

### **1.5 Aims of the study**

The current research originated as a result of my classroom experiences teaching *Testing Measurement and Evaluation (TME)* to Bachelor of Education (Primary) students on the topic of CA. These were students with primary teaching experience but who had enrolled for the upgrading course to become TTC lecturers after graduation.

While discussing how the teachers implemented the OBE in general and CA in particular when implementing PCAR, varied and mixed experiences ensued. The majority of the students explained that they implemented CA just for compliance. They indicated that large class sizes, and lack of appropriate knowledge and skills to implement it complicated CA implementation. The lack of appropriate knowledge and skills on CA implementation resulted in “cooking up scores” for reporting purposes. In addition, they also said that it appeared that the organisers of the CA orientation lacked knowledge and understanding of the anatomy and aspects of CA.

This apparent lack of preparedness for CA implementation made me question the whole essence of teacher education which is supposed to prepare teachers for the world of work. This curiosity therefore necessitated the need to conduct a study that not only examined the pedagogies that TTC lecturers used when preparing teachers for effective CA implementation in the schools but also to try out an innovative pedagogy that TTC lecturers could use as they prepared pre-service teachers for CA implementation. Equally important, this study was motivated by Smith (2011, p. 60) who states that: “it seems that the first pre-requisite for assessment for learning (AfL) to be successfully implemented in the classroom is not only professional development for teachers, but first and beyond, to engage teacher educators (lecturers) in AfL professional development process”. I consider this research an attempt to fill this gap of engaging lecturers in professional development in AfL in order to identify the effect it would make on their practice as they prepared teachers for effective CA implementation in schools.

Based on what has been said, the aim of the study was pragmatic in nature. Du Plooy-Cilliers et al. (2014, p. 78) describe pragmatic research as “research which aims to find solutions to specific problems by utilising both qualitative and quantitative methods”. Pragmatists aim at providing solutions to problems in their local contexts. Specifically, the study sought to achieve two aims. Firstly, it sought to understand and evaluate the pedagogies lecturers in IPTE programmes used as they prepared pre-service primary school teachers in Malawi for the implementation of CA. Secondly, it sought to identify and understand the design principles, and characteristics needed in order to design, develop and evaluate an effective strategic pedagogy in a collaborative manner so that it could be used in pre-service teacher education.

In this study, “strategic pedagogy” means a teaching methodology deliberately used by lecturers in TTCs during instruction with the sole aim of assisting pre-service primary school teachers acquire relevant pedagogical content knowledge and skills for effective CA implementation in the schools. In addition, “effective CA implementation” means the degree to which a teacher educator uses subject matter knowledge and pedagogical content knowledge (PCK) of CA for its successful implementation while taking into account the local prevailing conditions of the school. In the main, the ultimate aim was to identify a strategic CA implementation pedagogy that might be imbedded in the pre-service teacher education programmes aimed at empowering both the lecturers and teachers in implementing CA.

### **1.6 Purpose of the study**

In order to achieve the aim of the study, the purpose of the study was therefore twofold: firstly, to understand how TTC lecturers prepared pre-service primary school teachers for effective CA implementation in Malawi primary schools. Secondly, using design research it was meant to design, develop and formatively evaluate a strategic pedagogy, as an intervention, that TTC lecturers could use as they prepared pre-service primary school teachers for effective CA implementation.

### **1.7 Research questions and subquestions**

The study was guided by a main research question and sub-questions. The main research question that guided the study was: *What are the characteristics of a strategic pedagogy that lecturers in pre-service primary teacher education in Malawi could use for continuous assessment implementation?* The sub-questions were as follows:

1. What knowledge, attitudes and practices of continuous assessment do the TTC lecturers possess that influence the way they prepare pre-service primary school teachers for continuous assessment implementation? This sub-question was aimed at

identifying the knowledge of CA and its implementation strategies, attitudes (feelings, likes and dislikes about CA implementation) and practices (putting knowledge of CA into actual use) that teacher educators possessed and the pedagogies they used for preparing pre-service primary school teachers for CA implementation.

2. How do the current pedagogical strategies deployed in pre-service primary teacher education programmes support continuous assessment implementation? This involved an examination of the teaching methods that lecturers used when preparing pre-service primary school teachers for CA implementation in the schools and to identify gaps if any.
3. How can the instructional strategies that lecturers in TTCs use when preparing pre-service teachers for continuous assessment be improved? As a follow up to sub-question 2, this question was aimed at beginning to identify the design of a strategic pedagogy for pre-service primary teacher education for effective CA implementation. The aim was to identify a pedagogy that TTC lecturers could use as they prepared pre-service primary school teachers for CA implementation.
4. How does the use of the strategic pedagogy effect on the TTC lecturers' preparation of pre-service teachers for continuous assessment implementation in the schools? This question was aimed at evaluating the strategic pedagogy using the quality criteria for design research. The quality criteria are explained in Chapter four.

### **1.8 Significance of the study**

Firstly, it is hoped that the study findings has the potential to contribute to the knowledge and understanding of how lecturers in TTCs actually prepared teachers for the world of work, and how they adjusted their methodologies in response to changes in the school curriculum.

Secondly, the study findings will shape our understanding of how pre-service training institutions could provide pre-service primary school teachers with fundamental knowledge and skills they need to support and use assessment effectively.

Furthermore, the study findings might have the potential to influence future policy decisions in Malawi regarding how and what need to be put in place before a new curriculum could be introduced and implemented. The findings of the study may also help inform Malawi government's efforts in Education Sector Implementation Programme (ESIP, 2009-2013) which aims to improve "the pedagogy and teaching methods used in schools, assessment of learning outcomes and pupils achievement as well as inspection and quality assurance in the system" (MoEST, 2008).

Finally, the study will hugely contribute to the literature especially on the design principles for the strategic pedagogy that emanated through the formative evaluation of the prototypes, and the identification of the characteristics of a strategic CA pedagogic intervention for pre-service teacher preparation. As noted by Bless, Higson-Smith and Kagee (2006, p. 22), “the relevance of research must be judged in terms of the extent to which it facilitates interventions that lead to improvement in society”.

### **1.9 Research design used in this study**

As a way of seeking a solution to the complex CA implementation problems, prevalent not only in Malawi but also in the whole Southern Africa Development Community (SADC) region, the present study sought to investigate, understand and improve how pre-service primary school teachers were prepared for CA implementation in pre-service primary teacher education programmes in Malawi.

In order to achieve the aim of the study, it was necessary to identify, design, develop, and implement a strategic pedagogy for pre-service teacher education for effective CA implementation in primary schools in Malawi. The research design that could accomplish this aim was seen to be design research. Wang and Hannafin (2005, p. 2) define design-based research as a “research methodology aimed to improve educational practices through systematic, flexible, and iterative review, analysis, design, development and implementation, based upon collaboration among researchers and practitioners in real world settings, and leading to design principles”.

Education design research was considered appropriate in achieving the aim of the study because the function of design research is to “design and develop an intervention (such as programmes, teaching-learning strategies and materials, products and systems) with the aim to solve a complex educational problem, and to advance our knowledge about the characteristics of these interventions and processes to design and develop them” (Plomp, 2009, p. 12).

Since CA implementation was considered a complex problem, it was considered appropriate to collaborate with other stakeholders in the process of identifying a solution. This is one of the characteristics of design research. An overview of design research has been presented in Chapter 4.

### **1.10 Limitations and delimitation of the study**

As has been indicated above (see 1.3), the study was motivated by a lacuna of research in teacher education in the SADC region regarding how teacher lecturers actually prepared pre-



service teachers for CA implementation in the schools. There have been numerous retrospective studies on teachers' experiences on how they were prepared for their job in general or in particular aspects related to their profession such as assessment (Stiggins & Plake, 1997). The current study specifically examined only the teaching strategies that teacher educators in teacher education programmes in Malawi used as they prepared pre-service teachers for continuous assessment implementation in the schools. It focussed on the pedagogies that pre-service teacher educators used when preparing teachers for effective CA implementation. However, the study did not examine all the processes in teacher education from recruitment to graduation and certification which could have an impact on the pre-service teachers' ability to implement CA.

The limitation with the study was to do with the sample and sampling procedures followed, as they were both convenient and purposeful in nature. This compromises the generalisability of the findings but does not in any way affect the significance of the findings. In addition, the student questionnaires were not analysed as it was discovered that the students had not yet learned the module in assessment in general and continuous assessment in particular which affected the triangulation of the data. However, this triangulation was achieved by the data from the subject matter experts (SMEs) that participated in the study.

The other limitation with the study was that it did not determine the actual effectiveness of the strategic pedagogy as it required determining this from the pre-service teachers teaching in the primary schools. However, the findings have presented expected effectiveness of the strategic pedagogy.

### **1.11 Structure of this thesis**

The structure of the thesis is presented below along with a short description of each chapter.

Chapter 2, which is the context of the study, situates the problem of CA in Malawi by presenting the geo-political context of Malawi, the structure of education in general and the management of teacher education in particular as well as the institutionalisation process of the national curriculum. An understanding of the context will enable the reader to understand the forces behind the problem under study.

Chapter 3 reviews the literature, which begins with an exploration of the meaning of CA in order to align it with formative assessment (FA) and assessment for learning (AfL), the perceived benefits and challenges of CA, teachers' experiences with implementation of CA, and teacher professional development in CA. The concepts of effective teaching and teaching strategies have also been explored. The review also examined Heritage's conception of how

to make formative assessment (which has been aligned with CA in this study) work in the classroom; the role of teacher education for teacher preparation in general and for effective implementation of CA in particular; challenges experienced as reported by various studies in the implementation of FA in general and CA in particular have also been discussed.

Finally, the chapter has provided a conceptual framework for effective CA implementation which was informed by the literature reviewed. The central point made in this chapter was that CA implementation has faced numerous implementation challenges, and that there have been mixed experiences with this. However, the role of teacher education in preparing teachers who are able to implement CA effectively was seen to be crucial. Although CA implementation has been portrayed as complex in nature it can be implemented if carefully planned and implemented using a deliberate teaching approach.

Chapter 4 presents an overview of research design and methods which begins with a description on aspects of research in general with much focus on design research (DR), the research paradigm, and the research design and methods employed. Included in this chapter is the sampling process followed, instrument development, data collection, research procedures, and discussion of methodological norms and research ethics that were followed.

Chapter 5 presents pre-service primary teacher preparation for continuous assessment implementation. The chapter presents the findings of the baseline survey which contributed to the identification and formulation of the design principles and characteristics needed in order to design, develop and evaluate an effective strategic pedagogy for pre-service teacher education for effective CA implementation in primary schools in Malawi. Specifically, it addresses the first three research sub-questions.

Chapter 6 is about improving pre-service teacher preparation for CA implementation through a strategic pedagogy. The findings of the baseline survey contributed to the design, development and formative evaluation of the strategic pedagogy for pre-service primary teacher education for CA implementation in a series of prototypes. It tries to answer the question on how the instructional strategies that TTC lecturers used when preparing pre-service teachers for CA could best be improved. The design principles and specification for the strategic pedagogy for pre-service primary teacher education for effective CA implementation in Malawi have also been presented in this chapter.

Finally, chapter 7 presents the summary, conclusions and recommendations for future research.

## **1.12 Conclusion**

Chapter one has highlighted the background to the study and the problem that led to the study. The chapter began by discussing the reasons behind the integration of teaching learning and assessment in general and in Malawi, in particular. It then provided the problem statement, the aim of the study, the research questions and sub questions, the rationale and significance of the study and the research design used. The chapter has also discussed the limitations and delimitations of the study, and finally provided the structure of the thesis by highlighting the content of each chapter. Chapter two presents the context of the study.

## CHAPTER 2

### THE CONTEXT OF CONTINUOUS ASSESSMENT IMPLEMENTATION

#### 2.1 Introduction

The previous chapter presented the introduction and background to the study by presenting the reasons behind the introduction of continuous assessment in PCAR and its dismal implementation in the schools that necessitated a study to understand how pre-service teachers were actually being prepared for its implementation, and also how this implementation could be improved.

This chapter provides the context in which the study was carried out. The major aim of this chapter is to analyse the environment in which the new primary curriculum reform processes took place and the contribution of various stakeholders in the primary curriculum reform processes as well as its implementation. This also aimed to appreciate the factors that either contributed or prevented the effective implementation of CA in the primary schools in Malawi.

In terms of structure, the chapter is structured as follows: Section 2.2 presents general information about Malawi geographically, politically and economically. In the main, the political and economic contexts wherein PCAR and CA were institutionalised and their impact on successful implementation of PCAR are explicated. The structure and administration system of education in Malawi highlights how education in Malawi is organised and run. Section 2.3 helps readers appreciate and understand how CA implementation, monitoring and evaluation have been executed and challenged. Section 2.4 presents the partners in the provision of primary education with a special focus on PCAR reform processes, and education provision, showing clearly the careful consultative and corroborative processes that took place in the primary curriculum reform. This is followed by the systematic processes of the curriculum reforms that were informed by PCAR philosophy in terms of design, development and implementation process. Section 2.5 has presented the primary curriculum reform processes. Teacher education in Malawi in general has been presented in section 2.6. This has been done to present enlighten the readers on how one becomes a primary school teacher in Malawi. Such knowledge will also help readers relate how teacher CA implementation in the primary schools is a reflection of their college training. The organisation of TTCs in Malawi and how this impact effective PCAR and CA implementation has been presented in section 2.7. Section 2.8 describes the approaches used in the training of teachers in TTCs since 1994 when Malawi attained democracy. This is followed by section 2.9 which describes how teachers were either oriented or trained in readiness for PCAR implementation. The

challenges facing formal education sector which also impact on effective CA implementation has been made in section 2.10. Finally, section 2.11 presents the conclusion of the chapter.

## **2.2 Geo-political and economic information about Malawi**

This section presents information about Malawi geographically, politically and economically which might have an impact in the design, development and implementation of continuous assessment in Malawi. This information is considered will help the reader understand the context in which CA was implemented.

### **2.2.1 Geography of Malawi**

Malawi is a land-locked country in south eastern Africa falling between latitudes of 33° and 36° east and 9° and 18° south (Figure.2.1). By virtue of being a landlocked country, it implies that Malawi relies on land transport for both exports and imports of goods, which is relatively costly when compared with other modes of transport. Malawi has a total land area of 118,484 square kilometres – of which 20% is covered by Lake Malawi, and is described as slightly smaller than Pennsylvania. Malawi, a member of the Southern African Community Development (SADC), shares boundaries with Zambia to the northwest, Tanzania to the northeast, and Mozambique to the east, south and south west (Figure. 2.2).



**Figure 2.1: The location of Malawi**

Malawi's geographical position influences the policies, practices and innovations that occur in the SADC region in areas of health, politics and education. For example, Malawi is signatory to the Protocol on Education and Training in SADC (SADC, 1997) whose aim is to harmonise the provision of education within the region. In addition, innovations on assessment practices such as the introduction of CA in Namibia, South Africa Swaziland and Zambia just to mention a few, also influenced to initiate CA assumptions.



**Figure 2.2: Malawi and its neighbours**

### 2.2.2 The politics and economy of Malawi

Malawi is divided into three regions: Northern, Central, and Southern Regions, and is further divided into 28 districts. Each district is headed by a district commissioner (DC). Politically, Malawi was a British protectorate from 1891 to 1964 when it became independent, and two years later became a republic. Thirty years after independence, Malawi adopted a multi-party democracy with the United Democratic Front (UDF) as the first democratically elected party which replaced the Malawi Congress Party (MCP). The dawn of multi-party democracy in Malawi brought in new thinking regarding education in general, and provision of primary education in particular.

Economically, Malawi is one of the world's least developed countries, and it is predominantly an agricultural country with about 90% of its population living in rural areas. Malawi is one of Africa's most densely populated countries, and is described by the World Bank as both a low-income and heavily indebted country (World Bank, 2007). The estimated population of Malawi is more than 17 million. The average teacher to pupil ratio is estimated at to be at 1:80 but instances of having a teacher handling over 112 pupils are very uncommon.

Over 85% of the population depends on subsistence agriculture, and the agricultural sector accounts for over 35% of the GDP. Tobacco, tea, and sugar are the most important exports. Foreign donors provide an average of 36% of government revenue. The reliance on agricultural production, as a source of revenue, impacts on the provision of service delivery including education. Well planned educational innovations are mostly unlikely to succeed in the absence of adequate financial resources.

### **2.3 Malawi's educational structure and administration**

This section provides the structure and administration of the education system in Malawi in the context of CA.

#### **2.3.1 The structure of the education system**

The structure of the formal education system in Malawi is like a pyramid with more years of primary schooling (8 years) and half of the years of primary schooling (4 years) for both secondary school education and tertiary (university) education.

The eight years of primary school education starts from standard (grade) 1 to standard 8. Primary school education in Malawi comprises the infant section (standards 1 and 2); the junior section (standards 3, 4, and 5) and the senior section (standards 6, 7, and 8) (See Figure 2.3). Primary education in Malawi is free following the Free Primary Education (FPE) policy that was introduced in the country in 1994 when Malawi became a multi-party democracy. Despite primary education being free, there are some pupils who do not attend primary school because they have inadequate school supplies due to high poverty levels. The recommended age for a child to begin standard 1 is 6 but even then some students start at a much later age than this given their disadvantaged families.

The language of instruction and learning (LOIL) from standard 1 to 4 is the local language commonly spoken and understood by the majority of people in an area. There are many languages and dialects spoken in Malawi, but the main ones are Chichewa, Chinyanja, Chiyao, Chitumbuka, Chilomwe, Chinkhonde, Chingoni, Chisena, Chitonga, Chinyakyusa and Chilambya. English is taught as a separate subject in these first four years of primary education. Thereafter, English is used as LOIL and Chichewa, which is the national language, is then taught as a separate subject.

At the end of the eight years of primary schooling, pupils write a national examination administered by the Malawi National Examination Board (MANEB) referred to as Primary School Leaving Certificate Examination (PSLCE). This examination is used for both



certification and selection to the secondary school (Ministry of Education and Malawi National Commission for UNESCO, 2004).

Some students who do not make it to the public secondary school end up either in the informal sector or drop out of school completely. One reason for introducing CA in Malawi was to help all school-going children to succeed and to reduce dropout rates. It was expected that the final score at standard (grade) 8 would be a composite score from CA and MANEB results which could improve achievement. However, as this study was being undertaken, the process of deriving the final score at grade 8 from CA scores and Primary School Leaving Certificate Examination had not yet been implemented six years after PCAR was introduced due to the challenges faced in the implementation of CA.

Secondary education in Malawi is divided into two sections: Junior Secondary and Senior Secondary and each last for two years (Ministry of Education and Malawi National Commission for UNESCO, 2004) (See Figure 2.3). Students sit for the national examination referred to as the Junior Certificate Examination (JCE) at the end of the first two years (Forms I and II). Students who meet the requirements are awarded the Junior JCE. This examination, again, serves both as certification and selection into the senior phase of the secondary education. Candidates who excel in this examination according to the standards set are selected for the senior phase (Forms III and IV). At the time, the thesis was being prepared, the Government of Malawi abolished the JCE.

At the end of Form Four, students sit for another national examination known as the Malawi School Certificate of Education (MSCE) which is set, administered, scored and interpreted by MANEB. This is equivalent to the matric examination in South Africa. A pass at MSCE is equivalent to an ordinary O-level pass. To obtain a pass, candidates should either pass six subjects including English with a credit at least in one subject, or they can obtain five credit passes which should include English.

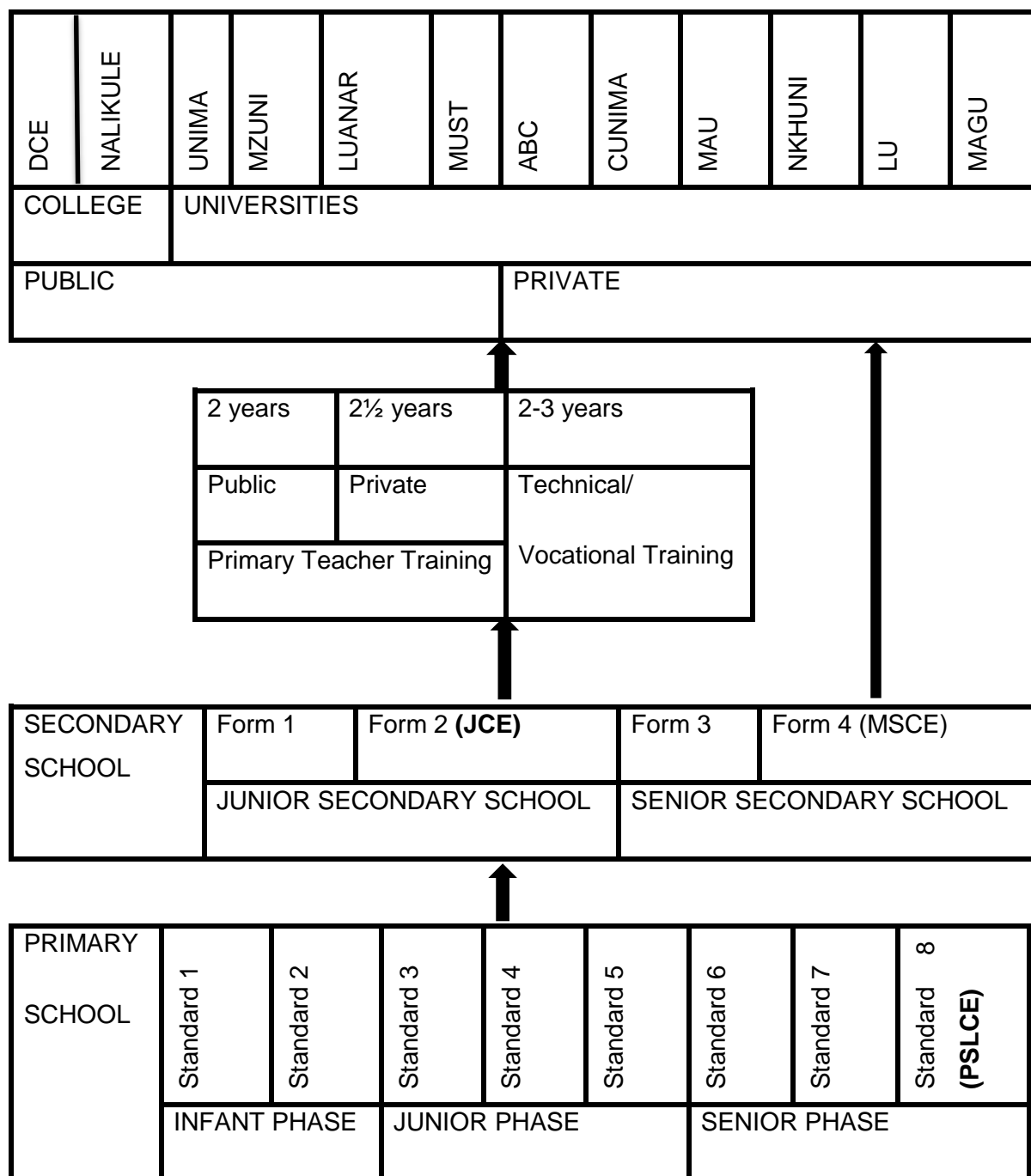
Candidates who meet the required standards are selected for university entrance. A student can qualify for a university entrance examination (UEE) at the University of Malawi (UNIMA), upon obtaining six credit passes that include English with an aggregate of not more than 36 points. Selection to the university is based on a composite grade from the MSCE results and the UEE results. Successful candidates can be admitted to any of the public universities as the selection is done by the Malawi National Council for Higher Education (NCHE) (See Figure 2.3).

Other procedures are followed for entry into other public tertiary institution that also offer degree programmes such as Lilongwe University of Agriculture and Natural Resources (LUANAR), Mzuzu University (MZUNI), the Malawi University of Science and Technology (MUST), Domasi College of Education (DCE) and Nalikule College of Education. Domasi and Nalikule Colleges of Education are the only colleges of education that serve as departments under the MoEST, and they do offer diploma and degree courses in education just like other subvented public universities.

Besides the primary, secondary and tertiary education, which includes primary and secondary teacher training, university education and other post-secondary professional courses, Malawi also provides technical and vocation education through the technical, entrepreneurial and vocational training authority (TEVETA) which is mandated to facilitate professional and technical training in Malawi with the sole objective to ensure a sustainable workforce, which will eventually promote Malawi's economic growth.

It should also be pointed out that the private sector which comprises religious organisations and individuals play a key role in the provision of primary and secondary school education, primary and secondary teacher education, technical education, university education and other post-secondary professional courses. For example, some major privately owned universities which offer courses in education in Malawi include African Bible College (ABC), Catholic University in Malawi (CUNIMA), Malawi Adventist University (MAU), Exploits University, Nkhoma University (NKHUNI), Livingstonia University (LU), Malawi Assemblies of God University (MAGU), Jubilee University and others. The structure of the education system in Malawi has been presented in Figure 2.3.

Both the public and privately owned primary and secondary schools and primary teacher training colleges follow the national curriculum developed by the Malawi Institute of Education (MIE). However, there are also some privately owned primary and secondary schools and TTCs which add other features to the MoEST curricula.



**Figure 2.3: Malawi education system**

As presented in Figure 2.3, primary school teachers are trained in both public and private TTCs with varying duration. Unlike in other countries such as South Africa where primary school teachers undergo a graduate programme, primary school teachers in Malawi have a Malawi School Certificate of Education (MSCE) as their academic qualification and a professional qualification of Primary School Teaching Certificate through the Initial Primary Teacher Education. Previously, primary school teachers were recruited using the JCE and the Primary School Teaching Certificate.

It is evident from the presentation above that the education system in Malawi is heavily laden with examinations. Learners sit for standardised examinations administered by MANEB for them to move from one sector of education to the other. These externally administered national examinations might have a profound impact on both what and how teachers teach which ultimately may affect CA implementation at both primary and TTC levels. For example, TTC lecturers may be constrained in adopting interactive pedagogies during pre-service teacher education for fear that they might be time consuming, and affect curriculum coverage in readiness for the MANEB national examinations.

### **2.3.2 Administration of education**

The MoEST has administrative, financial and academic control over primary, secondary, tertiary (including the university), and distance education as well as the training of primary and secondary school teachers (Ministry of Education and Malawi National Commission for UNESCO, 2004). The Minister with his/her deputy has the overall authority of overseeing the provision of education in Malawi. The Secretary for Education, Science and Technology (SEST) assisted by two Principal Secretaries (PS) and Directors are responsible for the daily activities of managing and administering the entire education system.

There are seven directorates in the MoEST namely: Finance and Administration (DFA), Basic Education (DBE), Secondary and Higher Education (DSHE), Human Resource (DHR), Planning (DP), Teacher Education and Development (DTED) and Inspectorate and Advisory Services (DIAS) (See Figure 2.4). While all the directorates are responsible, in one way or the other, in the provision of education, the Department of Teacher Education and Development (DTED) and the Department of Inspectorate and Advisory Services (DIAS) are directly responsible for curriculum development, teacher preparation, implementation, monitoring and evaluation. Thus, DTED and DIAS played leading roles in the primary curriculum and assessment reform (PCAR) process.

The second tier in the administration of education in Malawi comprises six education divisions (ED) (North in the Northern Region; Central East and Central West in the Central Region; and South East, Shire Highlands, and South West in the Southern Region) and each division is headed by an Education Division Manager (EDM). Within each education divisions, there are both Principal Education Methods Advisors (PEMAs) and Senior Education Methods Advisors (SEMAs) who are like subject advisors in the South African context. They are responsible for providing leadership on educational innovations as well as monitoring and evaluating the implementation of the curriculum.

The divisions are further organised into 34 education districts which are headed by district education managers (DEMs). There are 4 to 6 education districts in a division. Each district is divided into zones. A zone consists of 6-18 primary schools which are headed by a Primary Education Advisor (PEA) who performs administrative, methods advisory and inspection services in that zone (Ministry of Education and Malawi National Commission for UNESCO, 2004). A region in Malawi can be likened to a province in South Africa. Monitoring and evaluation of primary and secondary education at the zonal level is carried out by the Principal Education Methods Advisors (PEMA) and Senior Education Methods Advisors (SEMA) respectively and falls under (DIAS). These methods advisors are also responsible for orienting and training the teachers whenever a new innovation or curriculum is introduced in the system. Figure 2.4 shows the administrative structure of education in Malawi.

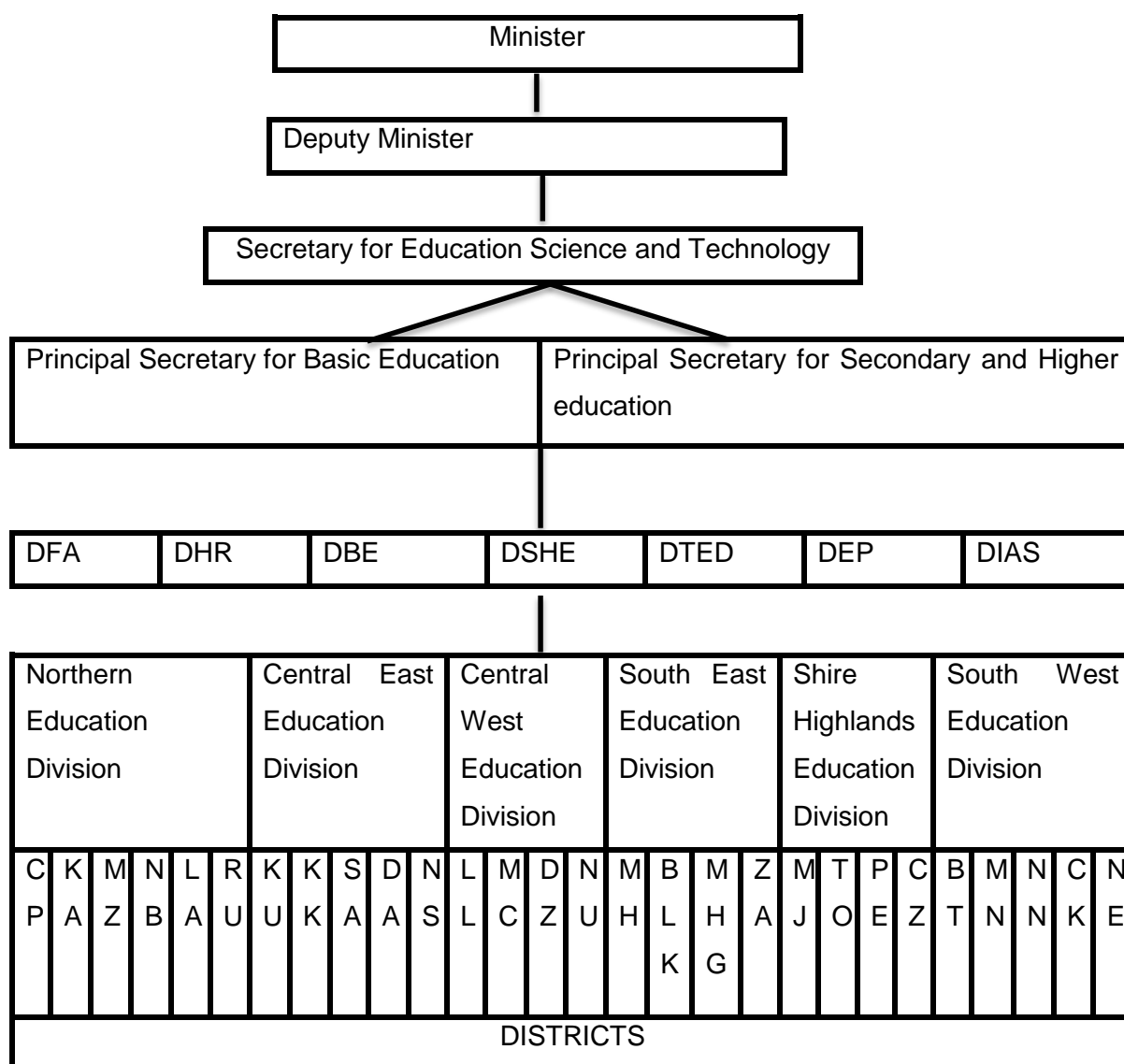


Figure 2.4: Education administrative structure

## 2.4 Partners in primary education provision

### 2.4.1 The Malawi Institute of Education

The Malawi Institute of Education (MIE) is a parastatal organisation fully subvented by the Government of Malawi under the MoEST. It is a centre for curriculum development and in-service teacher training. MIE as a curriculum development and research centre was established by Government Order Number 60 under the Education Act (CAP. 30.01) which became operational in 1982. It also undertakes research into teaching and learning activities in primary schools and evaluates educational materials. MIE also coordinates the textbook evaluation for use in the primary and secondary schools, and also provides in-service training programmes.

The mandate of MIE is in brief the following:

- To undertake, encourage and coordinate curriculum development, evaluation and research activities;
- To assist with the training of teachers;
- To provide professional services for all professional personnel in promoting the quality of education;
- To arrange for the publication and production of teaching and learning materials.

With the above mandate, MIE is responsible for:

- Revising the primary, secondary and primary teacher training curriculum every 10 years;
- Developing pupils' books and teachers' guides for primary schools;
- Developing manuals for teacher trainers;
- Developing audio-visual materials to supplement printed texts;
- Developing handbooks for use during in-service training;
- To establish programmes for continuing professional development of teachers and other educational personnel by including emerging issues in education.

Based on these mandates and responsibilities, MIE with DIAS provided the leadership in the design, development and formative evaluation of PCAR curriculum and resource materials as well as the training, and orientation of teachers for the the PCAR.

### **2.4.2 The Malawi National Examinations Board**

MANEB develops, administers and scores high stakes examinations for Primary School Leaving Certificate Examinations (PSLCE), Junior Certificate Examinations (JCE), Malawi School Certificate of Education (MSCE or O-level), and Primary School Teaching Certificate Examination (PSTCE) besides administering examinations for other international examining boards. The examination results are used for either certification or selection or both.

Not only is the board responsible for student assessment at the mentioned levels but is also responsible for developing examination syllabi for all the subjects it assesses. Due to its mandate, MANEB played a major role in PCAR curriculum development process especially in the production of PCAR assessment guidelines. These two institutions, therefore, coordinate as far as curriculum development and assessment issues are concerned.

While MANEB administers summative assessments at the end of Standard 8, and Form IV and TTC, teachers continuously assess students at different levels of education. For example, at primary school level, classroom teachers are responsible for the development, administration, scoring, interpreting and reporting both CA tasks and the tests in standards 1 to 7, during term and year end. Students have to satisfy the required standards set by the classroom teacher in compliance with the school requirements to pass for them to be promoted to the next standard or grade. Those learners that do not meet the requirements on both CA and the teacher-set tests at the end of the year repeat the class. At the end of Standard 8, learners sit for an external high-stakes national Primary School Leaving Certificate Examinations (PSLCE) set and administered by MANEB.

While at secondary school level, students sit for teacher-set tests (school-based assessments) in all the three terms of Form 1, and the first two terms of Form 2. At the end of Form 2 the students sit for a Junior Certificate Examination (JCE) administered by MANEB. Successful students are selected to Form 3, the senior phase. However, as the thesis was being written, the Ministry of Education Science and Technology announced the abolition of the JCE and encouraged teachers to use school-based assessments through continuous assessment.

Teachers are responsible for the development, administration, scoring and reporting test results in all the three terms of Form 3, and the first two terms of Form 4 before they can sit for their MSCE administered by MANEB in term three. Selection into the university is based on students' performance at MSCE and in compliance with university entry requirements and NCHE.

Students in TTCs are continuously assessed by their lecturers/tutors in the first two terms of their study. This assessment carried out by the TTCS is referred to as continuous assessment. The teacher training colleges submit the continuous assessment scores to MANEB. The pre-service teachers sit for a teaching certificate examination administered by MANEB at the end of the first year in college. Successful students proceed for a one-year teaching practice. Assessment during teaching practice is done by the lecturers and, gets moderated by MANEB alongside DIAS and DTED.

From what has been presented, there is ample reason to associate the Malawi education system as being highly examination oriented (Kadzamira et al, 2004; Susuwele-Banda, 2005). In actual fact, there were no teaching syllabi but only examination syllabi prior to 1991. Teachers used the examination syllabi for teaching purposes (Matiti, 2009). The externally administered high-stake examinations have been observed as an obstacle in the effective implementation of CA and the adoption of active learning pedagogies because the pedagogies are seen as being centrally about preparing students to pass the examination, which is in fact, the priority for most teachers, students, and parents (Mizrachi, Padilla, & Susuwele-Banda, 2010).

#### **2.4.3 Universities and civil society organisations**

The public universities which are parastatals such as the University of Malawi (UNIMA), Mzuzu University (MZUNI) Lilongwe University of Agriculture and Natural Resources (LUANAR), The Malawi University of Science and Technology (MUST) and other privately owned universities and colleges are responsible for offering tertiary education in various disciplines including education in Malawi. On the other hand, the Domasi and Nalikule Colleges of Education are the only government institutions under the MoEST whose mandate is to train secondary school teachers and TTC lecturers. As public institutions, they participate in curriculum development activities that take place at MIE. They provide their professional expertise in all the phases of the the curriculum development processes. Their presence and contributions to the curriculum development processes for the primary and secondary school levels is crucial because these levels provide the foundation for the tertiary levels.

#### **2.4.3 Civil Society Organisations**

Civil Society Organisations (CSO) such as religious organisations, faith groups, and Non-Governmental Organisations (NGOs) participate in the curriculum development processes. These organisations check the curriculum development process to ensure that it includes the nation's aspirations and is in line with the mandates of each respective organisation. The CSOs and NGOs participated in the PCAR process. The CSOs acted as a reference group



(Kaambankadzanja, 2012). The interest group members acted as a link between the PCAR Coordinating committee and the respective interest groups. They were supposed to share information to group members and get feedback to the coordinating committee. It can be observed that the PCAR development process was, from this perspective, consultative in nature as different organisations participated in its development.

The section that follows presents the reform process of the primary curriculum.

## **2.5 Primary curriculum reforms processes**

The primary curriculum reforms in Malawi was motivated by, among others things, the need to improve the quality of primary education so that it becomes relevant and responsive to the needs of Malawians after the dawn of the multi-party democracy, and its related tenets of good governance and rule of law. In addition, the curriculum was required to respond to the then emerging issues such as HIV and AIDS, environmental degradation, human rights and governance and gender. In addition, research indicated very high repetition and dropout rates with the previous curriculum. Hence, there was a need to come up with a curriculum that addressed these issues.

A systematic process of these curriculum reforms started in 2001 and culminated in its being implemented in standard 1 in 2007 (Kaambankadzanja, 2012).

Looking at the activities that were carried out when reviewing, designing and developing the primary curriculum, it could be said that the process was rigorous, systematic and consultative given that the PCAR followed a number of steps (Kaambankadzanja, 2012). The conceptualisation process took into consideration the various policy documents such as Vision 2020, Policy and Investment Framework (PIF) for the education sector (Government of Malawi, 2000), the National Education Sector Plan (NESP) (Government of Malawi, 2009) and the Malawi Growth and Development Strategies (MGDS) (Government of Malawi, 2000), among others. Major outcomes of the curriculum conceptualisation conference were that a decision was made to adopt the OBE curriculum as opposed to the objective-based curriculum that was in use prior to 2001 before the curriculum reform. The OBE also required reduction of the number of years for primary education from 8 to 7 with the introduction of a preparatory class. However, the preparatory class was cancelled, and the length of primary education remained 8 years. It was also at the same curriculum conceptualisation that a decision was made to introduce learning areas instead of subjects in the lower primary school.

Finally, CA was considered to be a key component of the teaching and learning processes and experiences. The integration of CA in the curriculum was considered vital as it would

assist in determining levels of achievement as part of the teaching and learning approaches, and was designed to be implemented by teachers using active-learning methodologies. The PCAR process was also guided by the PCAR framework (as set out in Figure 5 below) that integrated the development of the primary school curriculum and the assessment aspects of the curriculum.

Another important activity that was carried out after the conceptualisation process was communicating with the relevant stakeholders about the outcomes of the conference. These included briefing the MoEST management, meetings with education managers in the six education divisions, TTC lecturers, and PEAs (Kaambankadzanja, 2012).

MODEL OF PRIMARY CURRICULUM & ASSESSMENT REFORM

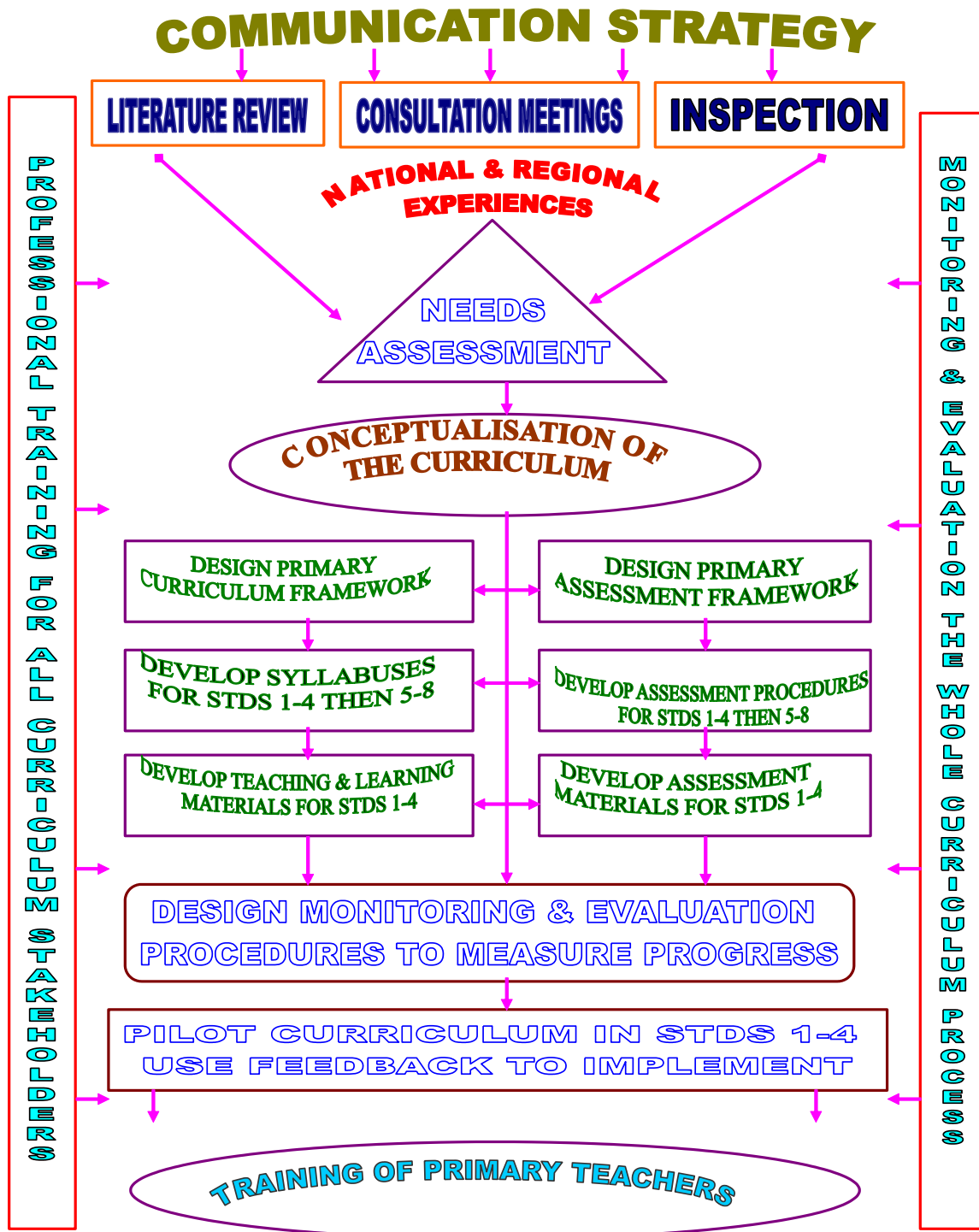


Figure 2.5: PCAR framework (MoEST, 2006, p. 3)

The key components of PCAR contained in the PCAR statement which was issued by the MoEST and published in the public media stated that:

“The new curriculum has introduced Outcomes-based Education to Malawi, designed to drastically improve achievement of girls and boys in Mathematics, English, Chichewa, Life Skills and Social Studies. Malawian children, through this learner- centred methodology, will

become literate, numerate, and will acquire the essential skills for their future development in fields such as agriculture, health, and science and technology. They will develop knowledge of strategies to cope with all the challenges of life. It is expected to produce dramatic improvements in the compliance with the school entry age policy, school attendance, completion levels, students' achievements, and professional development of teachers. The MoEST has attached great importance to this reform" (Government of Malawi & UNICEF, 2008, p. 3).

The final PCAR curriculum has six learning areas (Literacy and Languages, Numeracy and Mathematics, Life Skills, Social and Environmental Sciences, Expressive Arts and Agriculture, Science and Technology) which progress into separate subjects in the senior phase: Chichewa, English, Mathematics, Life Skills, Social and Environmental Sciences, Expressive Arts, Agriculture Science and Technology. The previous curriculum had thirteen subjects but these were reduced to seven in the PCAR (MoEST, 2006). The PCAR framework clearly stipulates that CA and summative assessments (SA) will be used when assessing pupil learning. CA will be conducted through oral presentations, practical tasks, reports, and research while tests and examinations will comprise the SA component. In addition, CA will include baseline assessment, diagnostic assessment as well as formative assessment (MoEST, 2006). End of year evaluations are obtained by combining results of CA and SA. However, certification at the end of the primary cycle will be determined by the CA in standards 6-8 and results of an external national summative examination administered by MANEB (MoEST, 2006).

In this curriculum, teachers were expected to keep record of all assessments done as well as provide feedback to learners, parents, fellow teachers, community examination boards and other relevant institutions.

A PCAR communication strategy was put in place and enabled a lot of education stakeholders not only to have their views incorporated but also to contribute to the curriculum development process (Government of Malawi & UNICEF 2008). The next section presents teacher education in Malawi which is crucial in the implementation of PCAR in general and CA in particular.

In summary, the new national curriculum which emphasised quality and relevance was the outcomes-based education (OBE), which advocated for learner centred/active learning strategies as well as the integration of teaching learning with CA at the core.

## **2.6 Teacher education**

There are two types of teacher education in Malawi: primary teacher education which is offered by TTCs and secondary school teacher education mostly offered by universities.

The Department of Teacher Education and Development (DTED) situated in the MoEST is responsible for the training of teachers, their continuing professional development, the deployment of tutors (lecturers) in the public TTCs, pre-service teacher intake or recruitment in public teacher education institutions, and teacher education curriculum development.

The main goal of the pre-service teacher training programmes in Malawi is to increase the number of qualified teachers at the primary and secondary levels in order to meet the demand due to the FPE policy (PIF, 2003; NESP, 2008; ESIP, 2009; Ministry of Education and Malawi National Commission for UNESCO, 2004). Primary school teachers are trained in both public and private TTCs. While in other SADC countries such as South Africa and Zimbabwe, primary teachers can graduate with a degree in primary school teaching, in Malawi TTC teachers only graduate with primary school teaching certificate, and those from universities mostly graduate with diplomas and degrees to serve the secondary school market.

Since the focus of the study is on how pre-service primary school teachers are prepared for effective CA implementation, the section that follows describes the primary school teacher education process which will illuminate the extent to which the process is effective for meaningful implementation of CA.

### **2.7.1 Primary school teacher education**

The training of primary school teachers in Malawi is done in TTCs. The current primary teacher education programme known as IPTE or 1 plus 1 lasts for two years. The first year is college based while the other year is for teaching practicum. There are six public primary TTCs in Malawi namely: Blantyre TTC, Machinga TTC, Lilongwe TTC, St Joseph TTC, Kasungu TTC, and Karonga TTC. Conversely, the Development Aid from People to People (DAPP) owns four TTCs namely Chilangoma TTC in Blantyre, Amalika TTC in Thyolo, Dowa TTC in Dowa and Mzimba TTC in Mzimba. There are also other privately owned TTCs such as Emmanuel International TTC in Lilongwe, Maryam Girls TTC in Mangochi and the Laudani TTC of the Livingstonia Synod in Mzimba.

Entry into Malawi's public primary TTC is of two types: Conventional Primary Teacher Training Programme and the Open and Distance (ODL) delivery mode programme. The conventional programme allows pre-service teachers to attend training while based at college for the whole year. The ODL programme on the other hand enrolls teachers based on distance education

principles, and students do so while on the job. They thus attend college based training for a period of three weeks, when the conventional students are on recess, then return to their posts when the face-to-face group is coming. Entrance into any of these programmes is based on the applicant's performance at MSCE, and satisfaction of eligibility criteria set from time to time.

On the one hand, the Conventional Primary Teacher Training (CPPTT) programme requires that a candidate should have a Malawi School Certificate of Education with credit passes in English and a pass in Mathematics, and another pass in any one of the following subjects: Agriculture, Biology, Science and Technology, Home Economics, Physical Science and General Science.

Moreover, eligibility for entry into the Primary Teacher Training programme through the ODL mode requires a candidate to possess an MSCE with passes in English, Mathematics, and any one of the following science subjects: Agriculture, Biology, Home Economics, Science and technology, Physical Science and General Science (MoEST, 2014).

There is no credit pass requirement in English for ODL. Candidates who meet the set criteria for any of the programmes sit for a written entrance examination. However, students in both programmes follow the same Initial Primary Teacher Education (IPTE) curriculum.

Currently, the programmes lasts for two years and two and half years respectively. The conventional primary pre-service primary teachers spend three terms of learning, training and assessment at the TTC in the first year. At the completion of the first year, they sit for a MANEB Primary School Teaching Certificate of Education (PSTCE). Thereafter, they spend another year on school-based teaching experience at a school in the TTCs catchment area for Teaching Practice (TP) and assessment. In contrast, the ODL pre-service primary teachers receive an initial three-week face-to-face orientation at a TTC then they go teach in schools. They later attend a two week face-to-face session at the end of term one and two.

Assessment of pre-service teachers on ODL is modular based. In both programmes, lecturers continuously assess student progress. In addition, they supervise students during teaching practice which is moderated by MANEB, DTED and DIAS. MANEB also certifies the primary school teachers.

### **2.7.2 Teacher development centres**

The government of Malawi through MoEST established teacher development centres (TDCs) in each education zone where primary school teachers receive continuing professional development (CPD). There are 315 TDCs in Malawi and each is managed by a PEA who is

assigned a number of schools in the area to support the teachers. As methods advisor specialist, the PEA is also responsible for supervising student teachers and overseeing their school-based practicum besides carrying out inspection duties.

## **2.8 Organisation of primary teacher training college**

As indicated elsewhere, TTCs are under the DTED in the MoEST. The DTED provides guidance to all TTCs on policy issues such as recruitment of pre-service teachers, curriculum and financial management and student discipline. However, monitoring and evaluation of curriculum implementation in the TTCs is carried out by the DIAS. DIAS with the support of MIE is responsible for conducting in-service training and orientation of the lecturers on any innovations. While some lecturers were involved in the development of both PCAR and IPTE curricula, all TTC lecturers were trained or oriented in the IPTE curriculum. In addition, a number of training programmes were carried out specifically on CA implementation after it was noted that the lecturers lacked the technical know-how regarding its implementation.

All public and private TTCs in Malawi follow the MoEST curriculum developed by the MIE although some privately owned TTCs which are faith-based offer other courses besides the formal curriculum.

The administrative structure at each TTC comprises the principal, deputy principal, academic dean of education, and heads of department that correspond with the subjects offered. The principal is directly responsible to the Secretary for Education Science and Technology through the Director of DTED and the Director for the Directorate of Inspection and Advisory Services (DIAS).

DTED is responsible for teacher training and professional development activities, policy issues, discipline and deployment of lecturers to the various TTCs under the MoEST. Continuing professional development of teachers takes place in the TDC located throughout Malawi. DTED also oversees the IPTE curriculum implementation, and if there are any challenges TTC lecturers face on the curriculum, DTED may consult the DIAS to provide the necessary in-service training (INSET). For, example, DIAS staff were requested to organise a CA INSET to all TTC lecturers in Malawi which included the lecturers at the research site for this study. The DIAS staff acted as consultants who provided the INSET. However, DIAS, which is responsible for monitoring and evaluation of curriculum implementation is supposed to organise such training without waiting to be consulted by DTED.

This arrangement may have its own challenges in as far as TTC curriculum implementation is concerned. There could be instances where DTED identifies a problem in curriculum

implementation and seeks the support of DIAS officers and yet the same challenges could also be identified by DIAS on its own as it is responsible for monitoring and evaluation of the curriculum implementation. The mere fact that DIAS provides professional development in the TTCs whenever consulted raises a concern regarding the role of DIAS in teacher education. Another challenge could be on the decision-making process. It would appear that DIAS may not introduce any innovation in the TTCs without the support of DTED.

Another issue worth mentioning regarding the organisation of TTCs is that the TTCs are not affiliated to any institution of higher learning such as a board that could be responsible for overseeing their curriculum implementation. The current arrangement whereby MoEST staff in the Directorate of Inspectorate and Advisory Services (DIAS) are responsible for this activity raises some questions regarding the quality of services they render as some of the staff may be underqualified for the job compared to some TTC lecturers.

## **2.9 Primary teacher education since 1994**

Since Malawi gained independence in 1964, different teacher education approaches have been followed. The approaches were adopted for various reasons. For example, some approaches were used in the training of primary school teachers to produce the needed qualified teachers over a short period of time or in response to curriculum changes. The section that follows provides the modes of primary teacher education that have been followed after the introduction of FPE as this was the time that a number of approaches to teacher education surfaced unlike during the one party era.

### **2.9.1 Malawi Integrated In-Service Teacher Education Programme (MIITEP)**

Following the introduction of FPE in Malawi in 1994, the primary school pupil enrolment increased from 1.9 million to 3.2 million. This resulted in the shortage of qualified primary school teachers. In order to quickly respond to the shortage of qualified teachers, a primary teacher education approach known as the MIITEP was introduced. It targeted the training of 18,000 teachers. Teachers recruited under this programme received three months of orientation at a primary teacher training college (TTC). The facilitators taught using five specially tailored teacher handbooks aligned with the primary school subjects and foundation studies (MacNeil, 2004). After that, they were sent to teach in the primary schools for a period of twenty months. This acted as classroom-based in-service teacher training. The final month was used for reviewing the content covered in readiness for the Primary School Teaching Certificate Examination (Mizrachi, Padilla & Susuwele-Banda, 2010).



The MIITEP recruited teachers who had either a JCE or MSCE after undergoing an oral interview (Exegesis et al., 2004). Previously, only prospective teachers with an MSCE were recruited for primary school teaching course. During the in-service training part of the programme of 20 months, the students received advice, support and assessment by qualified teachers, PEAs, head-teachers, and college tutors (lecturers). Assessment was in the form of writing 12 papers, carrying out four projects, and attending 12 zonal seminars. Thereafter, the teachers were assessed at a TTC by MANEB after being in the college for a month of revision. (Exegesis et al., 2004; MacNeil, 2004).

This mode of training had its successes as well as shortcomings (see MacNeil, 2004; Kunje, Lewin & Stuart, 2003) for a comprehensive review. However, a lot of teachers were trained over a short period of time, and it was cost effective despite the fact that it was a crash programme and proved problematic to all stakeholders involved in the execution of the programme.

### **2.9.2 Initial Primary Teacher Education (IPTE)**

In an effort to address the shortcomings of the MITTEP programme, the Malawi government, introduced a new primary teacher training curriculum and approach in 2005 known as Initial Primary Teacher Education (IPTE). The TTC curriculum reform occurred in a bid to align it with the OBE curriculum referred to as PCAR which was introduced in January of 2007 as indicated before (Malawi MOE, 2005a).

Unlike MIITEP, pre-service teachers spend a full year in residence at a TTC and another full year of teaching practice at a primary school. During the teaching practice period, student teachers got the professional support from both their lecturers, head-teachers, primary PEAs and a mentor teacher who is one of the teachers at the school where teaching practicum was being held. The mentor teacher helped the student teachers daily with lesson planning and identification of teaching and learning resources.

Teaching practice (TP) assessment is conducted by the lecturers, and examination officers from MANEB and moderated by DTED and DIAS. As part of the assessment, pre-service teachers submit an action research project they carried out.

Both IPTE and PCAR curricula emphasised the use of active-learning pedagogies or participatory teaching methods in teacher training colleges and primary schools which is a total departure from the traditional teaching approaches (Malawi MOE, 2004).

A critical observation of IPTE leads one to conclude that the programme is a reflection of what the pre-service teachers will actually be doing in the primary schools as the PCAR and IPTE

curricula were both outcome-based and advocated for the use of active learning pedagogies. In addition, just by looking at the kind of support organised for pre-service teachers during the one-year teaching practicum (TP) from the mentor teachers, head-teachers, PEAs and the lecturers who supervised the students during TP, one would only hope that the graduates of such a programme were properly trained for their work. However, getting the relevant training could be one thing and putting that training into practice maybe yet another.

### **2.10 Teacher training and orientation for the PCAR**

Besides training pre-service teachers using the IPTE outcome-based curriculum, the the Malawi Government through MoEST organised training/orientation sessions to all qualified primary school teachers to the new PCAR. The training of teachers for the new primary school curriculum used a cascade model; that is different trainers were involved at different levels. For example, there was a national training team that trained the PEAs for one week. This team of trainers comprised classroom teachers, TTC tutors (lecturers), curriculum specialists, and education methods advisors. It should be noted also that TTC leacturers are also known as tutors in Malawi although its usage does not mean the same as the tutors in the South African context. To ensure mass diffusion, the PEAs were expected to train head-teachers and teachers in their respective zones for one week (Matiti, 2009).

Reflecting on the training approach used for orienting primary school teachers on the new primary school curriculum, one would argue that it facilitated the training of a lot of teachers over a small period of time. However, one could also note the impossibilities of hands-on activities especially on how CA could exactly be implemented given the limited time that was provided for the orientation. Another concern is on the cascade model of orienting teachers which required that information should move from the national trainers to the PEAs and then to the grassroot teachers and head-teachers. It can then be argued that such information may be filtered and misrepresented as it went through the different people. It is also likely that some trainers were more knowledgeable than others therefore creating disparities in the way the the notion of CA, and how it can be implemented. This observation could then be one of the reasons responsible for the challenges teachers encountered when implementing CA in the schools.

### **2.11 Challenges facing the formal education sector in Malawi**

Although CA implementation in Malawi have faced numerous challenges, the education sector as a whole has its own challenges when implementing effective CA. This section presents the challenges.

Noteworthy of the challenges that the education sector faces are high pupil enrollment which lead to inadequate teaching and learning resources, and inadequate infrastructure such as classrooms and teachers houses. The shortage of classrooms is estimated to be as high as 20,000 (UNICEF, 2012). This forces some children to have their lessons held outside and in an open space mostly under a tree. In addition, there is a perennial shortage of qualified teachers which results into high teacher to pupil ratio that averages 1: 92 in some cases, and can sometimes go as high as 1:193 as was the case in Mangoch district against the recommended ratio of 1: 60. It can also be said that there could be differences in the quality of teachers in the system considering the different models of teacher training they went through.

Furthermore, many teaching and learning resources are required for an effective CA implementation. In addition, teacher qualification matters as they need to be conversant with the participatory teaching methods which, unfortunately has not been the case (Mizrachi, Padilla & Susuwele-Banda (2010). Moreover, effective CA implementation requires manageable class sizes for effective monitoring and evaluation of the progress that learners are making. These are some of the challenges cited as impacting on the effective CA implementation (Chulu & Chiziwa, 2010; Matiti, 2009).

## **2.12 Conclusion**

Chapter two has provided the contextual analysis under which PCAR and CA were implemented. The geopolitical and economic context clearly suggested that the environment was fragile for PCAR and CA's smooth implementation due to resource constraints. However, it has been shown that the PCAR reform process was systematically done, and was consultative in nature. However, teacher orientations for PCAR seemed to have its own attendant challenges due to the cascade model that was adopted. There was a high chance of information getting distorted, lost and misrepresented as it passed down the various stages.

One noteworthy point to be raised is that the TTC curriculum was also reviewed to align it with the changes that took place at the primary school level. One would only hope that the TTC curriculum took into account the aspects of CA implementation. The training approach of IPTE seemed to have provided the support that student teachers required as they interacted and received support from qualified teachers during their prolonged stay in the TTCs unlike the ODL group. Again, one would only hope that the support and supervision from mentor teachers, headteachers, PEAs and lecturers focused on the student teachers' use of active learning pedagogies and CA implementation. The analysis has also shown that a number of partners were involved in the design, development and communication of the PCAR initiatives

making it a consultative and collaborative process. However, the many identified challenges facing the education sector in Malawi, as highlighted in the analysis, could jeopardise effective implementation of PCAR and CA in particular.

The next chapter reviews the related literature to situate the current study as well as inform the conceptual framework.

## CHAPTER 3

### LITERATURE REVIEW AND THE CONCEPTUAL FRAMEWORK

#### 3.1 Introduction

The previous chapter presented the context for the study to understand Malawi in general, how CA was conceived, and the key players in the reform processes. Moreover, factors that affect the education system in general, which might also have a bearing on CA implementation in Malawi were treated.

This chapter presents the literature reviewed and the conceptual framework that guided the study in terms of data collection, analysis, and interpretation of the findings. It begins with an examination of the function of literature review in general which informed the review of the related literature for the study (section 3.2). In section 3.3 CA has been contextualised by exploring the meaning of such terms as formative assessment (FA) and assessment for learning (AfL) and relating it with CA. It has been argued that despite the differences in nomenclatures and conceptions, CA is to some extent similar to FA and AfL.

Having contextualised and conceptualised CA, section 3.4 has presented the purpose of CA, while section 3.5 presents the move towards effective CA in an education system. This section is followed by the role of teacher education in improving pre-service teachers' CA implementation ability in section 3.6. Section 3.7 presents the pre-requisites for effective CA implementation, while section 3.8 discusses the process for enacting this CA. While Section 3.9 presents the summary of the literature review; section 3.10 presents the conceptual framework generated from the concepts in the literature reviewed.

#### 3.2 Function of literature review

In any study, literature reviews serve a number of functions. For example, it can be used to show how the topic under study has evolved historically (Baumeister & Leary, 1997; Notar & Cole, 2010); to convince readers that the researcher's work is of significance and stimulates the researcher to contribute to new knowledge to the field of study (Hofshee, 2006, p. 91); to inform the researcher on developments in his/her study focus; to help the researcher contextualise his/her work, and to direct the researcher in the application of research methods and theoretical frameworks (Notor & Cole, 2010, p. 2; Timmins & McCabe, 2009, p. 42). Literature review also helps the researchers develop relevant theories for understanding and interpreting certain fields of research (Baumeister & Leary, 1997, p. 312; Jasson & Lacey, 2006, p.140).

This section is therefore informed by the functions of literature review outlined above. Through the review of the related literature, I was able to identify the historical developments of formative assessment as well as assessment for learning. Knowledge and understanding of these terms enabled me to conclude that CA shares similar meanings with FA and AfL despite the differences in their nomenclatures and conceptions. The review also provided an understanding of the advantages and challenges encountered in implementing these three assessments. Of particular interest, was the presence of challenges in the implementation of CA despite teachers being either trained in a tertiary programme or oriented in an extra school programme. This overview led to the development of the problem statement for the study. Through this literature analysis, I was able to identify the rationale for my study. After examining the challenges teachers face when implementing CA, it became critical to identify and understand how teacher educators prepared pre-service teachers for CA implementation, first during the baseline/needs analysis phase, and to design, develop and formatively evaluate a strategic pedagogy that teacher educators could use to prepare pre-service teachers during the intervention and assessment phases (see chapter 6 and 7). The purpose of the strategic pedagogy as an intervention for the study was to enhance the pre-service teachers' knowledge, skills and attitudes so that they would be able to implement CA as it was formally intended. Moreover, informed by the concepts, the reviewed literature enabled me to contextualise the study and direct the research in the application of research methods that were relevant for the current context (see chapter 4). This review also assisted in coming up with the conceptual framework which culminated in the design, development and formative evaluation of a strategic pedagogy for CA implementation as an intervention.

Having looked at the importance of the literature review, and how it related to the study, the section that follows contextualises the meanings and various conceptions of CA by comparing it with other terms used in the western countries.

### **3.3 Contextualising continuous assessments**

In this section, the concepts continuous assessment (CA), formative assessment (FA) and assessment for learning (AfL) have been examined. A comparison between CA, FA and AfL is made and explained with the aim to justify why CA, FA and AfL are deemed to be similar concepts in terms of principles and implementation.

The term continuous assessment, as with many other terms, has been defined in diverse ways. However, a close examination of the definitions seems to focus firstly on, when an assessment activity is implemented during the teaching and learning processes; secondly, *how often* it is implemented, and thirdly, *how* it is aligned with the teaching and learning

experiences. For example, Sieborger and Macintosh (1998, p. 25) define CA as "... assessment which takes place on and off throughout a course or period of learning". These authors state that the results of CA are supposed to be used for formative purposes (on-going provision of immediate feedback) although sometimes it has only a summative purpose. This means that CA involves the collection of marks obtained over a period of time and summed up. The primary goal for any CA activity, according to the authors, is to aid students learning through feedback. These authors mention the uses of CA as being formative implying that the purpose of administering CA is that the results should be used for making formative decisions about teaching and learning.

The approach taken by the Improving Educational Quality (IEQ) project in Malawi in defining CA was based on *how* the process is actually carried out, and how the information is used in the process of teaching and learning. This project defines CA "as an on-going process of making observations and collecting information to find out *what a student knows, understands and can do* (IEQ, 2003, p. 4). Unsurprisingly, this is the definition that one finds in the countries such as Zambia and South Africa that introduced CA under the auspices of IEQ (cf Kapambwe, 2010; Makotedi, 2011).

On the other hand, Nitko (1994, p.3) states, "the most important ideas about CA can be organised within a framework that focuses on students' learning the important outcomes set down in the curriculum". He argues that the assessments that teachers make during the teaching and learning processes including those administered by external examining bodies, must be aligned with the curriculum goals. He describes this framework as "curriculum-based criterion-referenced continuous assessment" (p.3). Since the assessment is based on what is stipulated in the curriculum, CA serves a formative and summative purposes. He asserts that *formative continuous assessment* provides the teachers and students with information that guides learning from day-to-day, while *summative continuous assessment* provides teachers, students, parents and school officials with information they may use for accountability purposes. The importance of both formative and summative CA is acknowledged to determine the extent students are learning or have learned the targets laid down in the official curriculum.

Nitko (1994) further, introduced two types of formative CA, namely, *informal formative CA* and *formal formative CA*. *Informal formative CA* consists of the teacher's casual and impromptu impressionistic observations of the progress learners are making in relation to the curriculum. *Formal formative CA*, on the other hand, includes assessments which the teacher may design for example, as a pre-test on a topic aimed at determining what the learners know and understand about a topic. The results gained can be used as feedback to both the learners and teachers when planning subsequent lessons. In other words, CA can take place informally

as the teacher is actually teaching through observations of learners' activities, as well as, through the questions that a teacher poses while teaching. The questions may basically be asked to determine understanding of the content or to clarify misconceptions that the learners may have during the instruction. Nitko (1994) then suggested that the formative CA serve a number of purposes such as "firstly, to identify students' learning problems on a daily and timely basis, and also to give specific, action-oriented feedback about learning. The results of these assessments are not meant for grading learner performance but rather to gauge and understand students progress during the learning and teaching experiences" (Nitko, 1994, p. 4).

Nitko (1994) also introduced another perspective on summative *continuous assessments* which are very formal, and their results become part of the students' accountability system. These assessments, he contends, should be aligned with the curriculum. The results from such assessments are also used to report the progress the learners are making to parents and also form part of the official permanent record of the learners' progress. In order to arrive at the *summative CA*, Nitko (1994) suggested combining several continuous assessments that may occur within a term or year.

The main purposes of *continuous assessment (CAs)* are the continuous monitoring of learner progress, and the provision of constructive feedback that indicates the learner progress, an acknowledgment of the learning competency, as shown in the assessment exercise, and that provides suggestions where they need to improve. It can be observed that in Nitko's (1994) definition of CAs mentions that the results can be used formatively (during the teaching and learning process) as well as summatively (for accountability purposes). Here it is difficult to explain whether CA may be taken to mean FA or assessment for learning or AfL. However, taking into account how the activity of assessing students occurs in CA, which is ongoing (formatively) and because the results are aimed at improving student learning (Black & William, 2009), one may conclude that CA can also mean both FA and AfL although strictly speaking FA and AfL are aimed at helping students to improve in their learning and not for accountability purposes (Black & William, 1998; Black & William, 2009).

Following the arguments by Nitko (1994) about the types of CA, it is no wonder that in the Malawian context, and other SADC countries where CA is being implemented, continuous assessment results are used for both formative and summative purposes. In *formative CA*, learners who are making progress are given enrichment activities while those not making progress are given remedial activities (Kamangira, 2001). In addition, the learners' final score for the term or year is obtained by getting the mean of all formal formative assessments for the term. It is this score that is used for administrative purposes such as promotion to the next



level and placement decisions. However, this action departs greatly from the original thinking behind the integration of teaching, learning and assessment, namely, to improve student learning which both advocate.

For example, there is ample evidence that the term FA or AfL (Black, Harrison, Lee, Marshall, & Wiliam, 2003; Broadfoot, 2008; Gipps & Stobart, 1997; Stiggins, 2002) “does not have a tightly defined and widely accepted meaning”. Black and Wiliam (1998, p. 7-8) define formative assessment as “encompassing all those activities undertaken by teachers, and/or by their students, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged”. However, they also describe formative assessment as “an assessment activity that can help learning if it provides information to be used as feedback by teachers, and by their pupils in assessing themselves and each other, to modify the teaching and learning activities in which they are engaged. Such an assessment becomes ‘formative assessment’ when the evidence is actually used to adapt teaching work to meet learning needs” (Black, Harrison, Lee, Marshall, & Wiliam, 2003, p. 2).

Wiliam and Black (1996) and Wiliam and Leahy (2006) argue that the term formative should describe how the assessments are used for and not necessarily the assessments themselves. In this way, different types of assessment may qualify as formative depending on how the results are used regardless of their initial intention. In agreement with this, Torrence and Pryor (2001) state that there are basically two approaches to formative uses of assessment which teachers might take which are divergent and convergent. The purpose of formative convergent assessment “is to find out if the learner knows, understands, or can do a predetermined thing as in the definition of CA shared by the IEQ. It is characterised by detailed planning, and is generally accomplished by closed or pseudo-open questioning tasks” (p. 616). Divergent assessment “emphasises the learner’s understanding rather than the agenda of the assessor... to discover what the learner knows, understands and can do. It is characterised by less detailed planning, where open questioning and tasks are of more relevance” (p. 617). These two uses seem to be similar with Nitko’s (1994) conceptions regarding the types and functions of CA. It can be observed in the definitions of formative assessment that the main object of implementing FA is to improve learning through the feedback that a learner obtains after performing an assessment task. It is also evident from the two types of formative assessment that it may require either detailed or less detailed planning similar to what Nitko (1994) indicated as formal and informal CA. The definition of FA includes the phrase “to find out if the learners know, understand, or can do” which is also included in the definition of CA discourse discussed earlier.

Airasian (1991, p. 150) defines classroom FA which in places such as South Africa is referred to as school-based assessment, as “the basic, everyday activities that help teachers guide and make sense of their work; provide feedback while it is still possible to influence the process”. The emphasis is that classroom formative assessment is done on a daily basis aimed at providing meaningful teaching and learning which is similar to the philosophical bases of CA. A further definition by Shepard et al. (2005, p. 75) assert that formative assessment is “assessment carried out during the instructional process for the purpose of improving teaching or learning. A seemingly similar definition is that formative assessment “takes place day by day and allows the teacher and students to adapt their respective actions to the teaching/ learning situation in question” (Allal & Lopez, 2005, p. 244). All the above definitions clearly indicate when formative assessment is carried out in a lesson, and the purpose for doing so. Formative assessment occurs during the teaching and learning process. Just like CA, it is a daily activity in each and every lesson that a teacher teaches. It is aimed at identifying the progress learners are making in order to provide timely supportive feedback to those who seem to be facing difficulties as well as to encourage those who are performing to the expected standards. This feedback also is aimed at modifying the teaching/learning process. This is the understanding behind the introduction of CA in Malawi.

Linn and Gronlund (2000, p. 41) define formative assessment as assessment that is “...used to monitor learning progress during instruction. Its purpose is to provide continuous feedback to both student and teacher concerning learning success and failures”. But the Assessment Reform Group (ARG) (2002) looked at formative assessment as assessment for learning (AfL) and defined it as “the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go and how best to get there (Assessment Reform Group, 2002, pp. 1-2).

Heritage, (2010, p. 10) defined formative assessment as “a process that takes place continuously during the course of teaching and learning to provide teachers and students with feedback to close the gap between current learning and desired goals”. Having looked at some of the definitions of continuous assessment and formative assessment/assessment for learning, let us look at their relationship.

A close examination of the definitions indicates the presence of some relationship in the form and function among FA, AfL and CA. For example, there are some phrases that are common in the definitions such as “information gathered during continuous assessment/formative assessment/assessment for learning is used as feedback in order to improve learning”; “in order to enhance learning and teaching,” or to “improve teaching and learning”; “is continuously done day by day in each lesson”; “decision has to be made regarding where

pupils are, need to go and how to get there”; “the assessments are planned in advance or occur according to what the classroom situation may demand”; and “students are involved in the assessments”. Whether it is *continuous assessment*, *formative assessment* or *assessment for learning*, feedback is obtained which helps both the teachers and the learners during the teaching and learning processes. The feedback helps the teacher to modify his/her teaching while it helps the learners how to learn the material. This feedback may also be extended to the other stakeholders such as the parents and the community at large. However, the immediate use of the feedback is to improve learning.

A critical examination of CA and FA gives a picture that the terms have similar characteristics. For example, both concepts involve an on-going assessment of learners during the teaching and learning process; both formative and continuous assessment activities include planned as well as unplanned ones; both are aimed at enhancing pupil learning; both involve provision of constructive feedback; both involve learners in peer and self-assessment of learners. The only slight difference between the two is that while FA is strictly supposed to be used for improving learning, CA can be used for improving learning as well as for grading purposes (accountability) (Nitko, 1994). As has been indicated, one can identify more similarities than differences between CA, formative assessment and assessment for learning. Based on the three features, the similarity of purpose, when assessment activities occur, and how they are implemented in the classroom, make CA to be considered to mean the same as either formative assessment or assessment for learning. It is argued that CA and formative assessment are similar based on when continuous assessment and formative assessment are carried out in a lesson and the rationale for implementing them in the classroom. Both continuous assessment and formative assessment are on-going activities that take place during instruction on a daily basis aimed at improving learning or help learners learn better. Learning improves due to the timely and constructive feedback that is provided to the learners.

It is for this reason that the meaning of CA in this study on “A strategic pedagogy for primary teacher education for effective continuous assessment implementation in Malawi” is understood to mean the same as “formative assessment” and “assessment for learning” despite differences in their nomenclatures. Accordingly, CA, FA and AfL will be used interchangeably in this study, depending on the original source of the text. Having provided the context in which these notions are used, the next section explores the reasons for integrating teaching, learning and assessment in a lesson.

### 3.4 Purposes of continuous assessments

The previous section provided reasons why CA, as used in Malawi and other SADC countries such as Namibia, South Africa and Zambia, is understood to mean the same as formative assessment and assessment for learning despite their differences in nomenclatures and conception. There are obviously good reasons why the Malawi Government and MoEST decided to integrate CA the PCAR. It can of course be argued that these could be the reasons the introduction of this assessment innovation in other SADC countries. The integration of teaching, learning and assessment in PCAR is aimed at improving teaching and learning, and improving the quality and relevance of education in Malawi (PIF, 2001). Research has been reported to show some impact of formative assessment on improving learning (Black & Wiliam, 1998). For example, when teachers know how students are progressing and where they have difficulties, this information may be used to make necessary instructional adjustments to the teaching (Marsh, 2007) such as remedial work or enrichment activities (Kamangira, 2003). This valuable information affords the teacher an opportunity to try alternative instructional approaches, or offer more opportunities for practice which can lead to improved student success (Black & Wiliam, 1998; Boston, 2002). The feedback, when effectively provided, helps learners realise what they are expected to learn with respect to their current knowledge, understanding or skill and they are thus motivated to make an effort to achieve those goals (Ramaprasad, 1983; Sadler, 1989). This feedback, though generally originating from the teacher, can also come from learners through self-evaluation or peer-evaluation. Research has shown that greater improvement is made by learners who know and understand learning objectives and assessment criteria and are given opportunities to reflect on their work than those who do not (Fontana & Fernandes, 1994; Frederickson & White, 1997). Research also indicates that students with learning disabilities, who are taught to use self-monitoring methods related to their understanding of reading and writing tasks, depict performance gains (McCurdy & Shapiro, 1992; Sawyer, Graham, & Harris, 1992).

Integrating teaching, learning and assessment is not only beneficial to the learners but also the teachers. Marsh (2007, pp. 26-27) presents the pedagogical benefits of formative assessment. For example, “it helps with planning as it involves giving clear intentions to students; ensuring that pupils are focussed on the purpose of the task and [that they] become involved in their own learning and comment on it; it empowers students to realise their own needs and have control over future targets; it ensures student motivation and involvement in [their] progress; and it provides less adverse effects than do standardised assessments”.

In Malawi, the rationale for integrating teaching, learning and assessment is based on the following reasons. Firstly, it affords the teacher the opportunity to diagnose learner’s

challenges early in the course of the teaching and not at the end of the course when summative assessments are administered. In addition, CA helps the teacher to assess other behaviours that cannot be assessed during an examination. For example, the teacher can ask the learners to carry out a project in a given topic as a CA activity which cannot happen in an examination setting. As the learners are aware of the criteria for success during the teaching and learning process, they become responsible for their own learning. The rationale for CA in PCAR Framework has been provided as follows:

- Provides feedback on what learners have achieved and so builds up a record of each learner's progress against the primary outcomes for each learning area.
- Helps teachers to identify a learner's strengths and weaknesses so that they can help learners learn and improve through remediation or enrichment support.
- Involves learners in assessing their own performances and setting their own goals for improvement.
- Provides teachers with feedback about the methods and assessment techniques they use for teaching so that they can make decisions to improve their teaching.
- Encourages more, and better, communication between teachers and learners.
- Monitors the learners' performances to assist them to perform at their best, and at their own pace rather than to pass or fail them all after a test on a specific day.
- Enables teachers to report regularly, through the year, to parents, officials and other interested people on the learners' performances
- Provides valid indicators on the quality, relevance and effectiveness of the whole curriculum for ongoing renewal and improvement (MoEST, 2006, p. 22).

Despite the perceived benefits, it has been shown that CA/ FA and AfL are rarely used in the classrooms (Dwyer, 1998; Marsh, 2008). A number of reasons have been put forward that explain why CA, AF and AfL are rarely used in the classrooms. In Malawi, teachers unfamiliar with CA and under the pressure exerted by the high stakes examination systems do not implement CA as intended (Matiti, 2009). However, Marsh (2007) is of the position that teachers are more familiar with summative than formative assessments. In addition, it would appear that society values summative assessment results due to the stakes attached to them at the expense of formative assessments.

The last two issues presented by Marsh (2007) are critical for effective CA implementation. If teachers are not supported in the pre-service teacher education programmes to be familiar with CA, and that the curriculum documents that teachers use focus on knowledge acquisition aligned towards summative assessment requirements then effective implementation is

obviously jeopardised. Knowledge and skills acquisition cannot be perfected without deliberately providing the pre-service teachers with an opportunity to practice as well as reflect upon what they learn. This point provides the rationale behind the nature of the strategic pedagogy for pre-service teacher education for effective CA implementation as an intervention suggested in chapter six.

Dwyer (1998), while sharing similar sentiments with Marsh (2007) looks at the problem from another angle. Teachers use formative assessment infrequently because they are unable to develop high quality assessments that are valid and reliable. They also face challenges in integrating them effectively into classroom assessment. Teachers feel that this task is “beyond the reasonable scope of their responsibilities and available time” (p. 134). In addition, based on previous research on the knowledge and skill demands of beginning teachers, Dwyer (1994) found out that the alignment of teaching goals, classroom activities, and assessment was one of the most difficult for beginning teachers to master. She, was therefore, sceptical of the fact that formative (or summative) assessment is seen as a significant part of teacher education programmes.

In summary, the preceding section has provided the reasons assessment is seen to be beneficial if it is integrated within teaching and learning contexts. However, though this integration of teaching, learning and assessment through either continuous assessment/formative assessment/assessment for learning is perceived to be beneficial in improving learning, this integration is rocked with numerous challenges. Ironically, the advantages of using CA as an assessment innovation that can improve learning have been acknowledged by many educational practitioners and scholars. Although the literature has provided reasons for teachers’ infrequent use of formative assessment/continuous assessment it is not unreasonable to state that the teachers’ assessment practices are also influenced by their experiences, knowledge, and attitudes which are shaped by the way pre-service teacher education programmes prepare the pre-service teachers for CA implementation, and the environment in which they teach. The next section will examine the experiences of teachers with CA implementation in the SADC region in general, and Malawi in particular which may shed some light regarding the challenges behind the unsuccessful implementation of CA.

### **3.5 Continuous assessment implementation experiences**

It has been shown in the above sections that the implementation of CA has been met with numerous challenges. However, this does not necessarily imply that there are no other

experiences with CA implementation. The sections that follow discuss the experiences different stakeholders had with CA implementation.

### **3.5.1 Practising teachers' experience of continuous assessment**

The teachers play critical roles in the success of any education reform. Teachers as implementers, transform the requirements of the curriculum documents into practice as they interact with both the curriculum and the contexts in which they operate. The manner in which the teachers are oriented towards the implementation of a curriculum innovation and the contexts in which the innovations are implemented are critical determinants of the successful implementation of such innovations. Effective training is crucial as it prepares the teachers on how to implement an innovation. The contexts in which the innovation is implemented do have an effect on the way innovations are implemented. Some contexts could be suitable for the implementation of an innovation while others could jeopardise its successful implementation. As will be observed in this section, there have been varied teacher experiences in the implementation of continuous assessment in different countries where it has been implemented.

### **3.5.2 Positive attitudes towards continuous assessment**

There are countries in Africa such as Nigeria, Ghana, Tanzania and Malawi where teachers have exhibited positive attitudes towards the introduction of CA. For example, in Nigeria, where 30% of the overall grade is based on the students' CA practice while the remaining 70% constitutes the result from formal examination, teachers were observed to have positive attitudes towards CA even before it was formally introduced in 1981. It would appear that the teachers were not happy with the system of assessment that existed prior to the introduction of CA, and hoped for a change (Ezewu, 1982).

In addition, a study on the attitudes of some Nigerian Science, Technology, and Mathematics (STM) Teachers towards Assessment Practices (Nneji, Fatade, Awofala & Awofala, 2012) also showed that the teachers had positive attitudes towards CA despite the fact that they were yet to fully appreciate its instructional role. The authors indicated that "the positive attitudes towards such assessment practices as testing students after teaching any topic and making students' test result part of the students' annual and terminal examination results exhibited by STM teachers in this study are in favour of the cumulative and periodic features of continuous assessment" (Nneji, Fatade, Awofala & Awofala, 2012, p. 115).

Just like in Nigeria, teachers in Ghana had positive experiences with CA implementation. Hayford (2007) explored the uses of CA and experiences of lower attaining pupils which

involved 119 primary and junior secondary schools in the districts of Agona and Affutu. He found out, among other main findings, that teachers in the study felt strongly that CA enabled them to support lower attaining pupils to improve. However, large classes and lack of training were reported as barriers to supporting lower achievers to improve.

Similarly, CA which contributes 50% to the final score in Tanzania has continued successfully, despite the misgivings people have had about using school-based assessments for certification since 1976 to date, and has been accepted by the majority (Gandye, 1993).

In Malawi on the other hand, primary school teachers who were involved in the implementation of the IEQ pilot CA implementation in Ntcheu district had very positive attitudes about the programme. Teacher/ pupil relationship as well as pupil learning achievement improved during the period CA was being implemented in the district (Kamangira, 2003). It remains unclear however what could be the contributing factors for its success. One school of thought alludes to the continuous training of the teachers as well as the financial, material and the community support that was rendered during the project period as being responsible for its success. If continuous training of the teachers during the project period was one of the factors behind the success of this project, it therefore vindicates the importance of effective teacher training for successful CA implementation.

### **3.5.3 Negative attitudes towards continuous assessment**

Contrary to the above experiences, teachers reported negative attitudes toward CA in South Africa, Swaziland, Zambia and Malawi (Malawi after CA was formally introduced in the new curriculum). Generally, the negative experiences of teachers with CA implementation have been expressed through teacher resistance basically due to lack of the technical knowledge in implementing CA (Matshidiso, 2007; Reyneke, 2008; Warnich, 2008; Kapambwe, 2010; Matiti, 2009). Teachers have also expressed frustration due to lack of resources, large class sizes, administrative overload, (Chiunda & Kuopsya, 2011; Chulu, & Chiziwa, 2010; Kapambwe, 2010; Matshidiso, 2007; Reyneke, 2008; Warnich, 2008) and incompetent trainers (Chiunda & Kuopsya, 2011; Warnich, 2008). For example, in a study by Warnich (2008) in South Africa, participants indicated inability to integrate content, learning outcomes and assessment standards when designing a lesson or work schedule as well as the implementation of various assessment methods, techniques and instruments.

In Swaziland, as in the other countries, research indicates that teachers face an increase in workload when implementing CA (Zugu, 1993; Hlophe, 1996; 1997; Tungesvik, 1998). Other problems that teachers faced included high teacher-pupil ratio, and the inadequate understanding of the terms that are used in the programme (Nsibande & Modiba, 2005). In



another study, Nsibande (2006) investigated the extent to which primary school teachers in Swaziland understood and implemented the requirements of the CA programme. The results of the study indicated that teachers “slavishly” implemented what was contained in the curriculum support materials. In addition, despite the fact that they used assessment strategies that promoted the CA programme, their assessment strategies prioritised knowledge retention rather than the cognitive development advocated by the programme. It was thus concluded that teachers could not translate the demands and requirements of the CA programme into professional judgment, decisions and practices without having exposure to meaningful developmental opportunities.

It would thus appear that teachers’ experiences in implementing CA depended upon the knowledge and attitudes they had towards CA. In places where teachers received adequate orientation or training, their experiences and attitudes towards CA implementation tended to be positive unlike in those countries where orientation was lacking. It would also appear that successful implementation of CA depended on the teachers having adequate knowledge about the principles underpinning CA. The section that follows presents the impact of teacher education on practice.

#### **3.5.4 Impact of teacher education on practice**

In Malawi, there is, in general, limited research into different aspects of the curriculum, and less research in relation to CA. The research that has been carried out (Susuwele- Banda, 2005) is mainly concerned with classroom assessment with a focus on teachers’ perceptions and current assessment practices. The aim of that study was to gain an understanding of the extent to which teachers in primary schools used different classroom assessment methods and tools to understand and support both the learning and teaching processes. The findings of that study suggested that teachers had limited understanding and ability to use different classroom assessment practices. Classroom assessment has been allocated to specific periods and not particularly embedded in their teaching experiences, which is contrary to how CA implementation is supposed to occur. In other words, teachers’ perception of CA was viewed as “tests” which they used to assess student learning (Susuwele-Banda, 2005, p. 125). Although the study did not compare teachers’ perceptions with the teacher education programme, the observation was that the teacher education programme did not seem to contribute much to teachers’ perceptions and knowledge of classroom assessment. The study, therefore, recommended that “assessment of students should be covered in detail when teachers are in training, and should not be confused with testing, which is only one component of assessment” (Susuwele Banda, 2005, p. 133).

Similarly, a study by Kalande (2006) which compared teachers' classroom practices with the Malawi Integrated In-service Teacher Education Programme (MIITEP) curriculum guides revealed that there were "matches, partial matches and mismatches" between what the primary school teachers demonstrated in their classrooms as compared with the science teacher preparation programme they completed. The shortcoming of the study is that it did not actually observe the preparation of the teachers while on training in readiness for the MIITEP curriculum implementation.

In another study, Chirwa (2009) investigated factors that affected the implementation of a Life Skills programme in primary schools. Among the findings, it was clear that poor training in assessment, which was offered to the teachers when Life Skills was introduced, was one of the major factors that affected its successful implementation.

On the other hand, Mhango (2008) conducted a study aimed at exploring how primary school teachers in Malawi planned and implemented Social Studies lessons for the preparation of active participatory citizens in a democratic society. Findings from the study showed that despite the fact that Social Studies primary curriculum had content and pedagogic approaches appropriate for the preparation of active participatory citizens, the teachers in the study displayed limited understanding of the concept of participatory learning suggested to them in the curriculum documents. This limitation was evidenced in the way the teachers planned their lessons which were largely teacher-centred. Another factor that hampered the effective implementation of the Social Studies curriculum was the presence of high stakes national examinations at Standard eight which made it difficult for teachers to use participatory approaches because they were considered to be too demanding and time consuming. The general finding was that there was a discrepancy between the state's intended curriculum and the teachers' enacted curriculum.

On another note, studies conducted in Malawi that specifically examined how primary school teachers implemented CA after its introduction in PCAR suggested that primary school teachers and head teachers lacked the technical know-how with respect to CA implementation (Matiti, 2009; Chulu & Chiziwa, 2010). For example, Matiti (2009) while examining teachers and head teachers' experiences with CA implementation observed that teachers lacked the technical expertise of CA implementation. Furthermore, a report on an evaluation of the implementation of the national primary curriculum (NPC) which was undertaken by the Department of Inspectorate and Advisory Services (DIAS) in the MoEST presented the non-subject specific skill areas that were noticeably weak. Three findings that specifically relate to CA implementation are noteworthy. Firstly, the evaluation indicated that "teachers did not use questions productively in the classroom nor did they successfully promote the students' use

of questions” (Lwanda & Kayira n.d). Secondly, “teachers were challenged by the requirement to continuously monitor and assess their students learning in the classroom” (Lwanda & Kayira n.d). Finally, the majority of teachers struggled with applying CA in the classroom (Lwanda & Kayira n.d). These findings from DIAS can be considered to be objective in the sense that they come from a department that was involved in the design and development of the CA as well as orienting the teachers in the implementation of the curriculum (see chapter two). The areas highlighted are very crucial for effective CA implementation. For example, teachers need to be skillful with questioning techniques as well as promoting students’ use of questions during the teaching and learning sessions when integrating teaching, learning and assessment. Questions asked during the teaching and learning processes assist in determining the progress that the learners are making as well as identifying the misconceptions that the learners might have. Any handicap in this area will render CA implementation ineffective as CA mainly relies on the effective use of questions, as well as ability to monitor the progress learners are making during instruction. In addition, if teachers were unable to monitor and assess students learning in the classroom continuously, then there was no CA implementation. Continuous assessment implementation requires teachers to carefully and periodically determine the progress or lack of it that the students are making in the classroom. Finally, the finding that the majority of the teachers struggled with applying CA in their classrooms could be taken to imply lack of CA implementation by the majority of the teachers.

From the literature reviewed on the implementation of CA in Malawi, it is not incorrect to suggest that there is a disparity between the curriculum specifications on the one hand and teachers’ classroom practices, on the other. While the curriculum specifies use of participatory methodologies and integration of teaching, learning and assessments, the findings from the studies so far examined indicate that this is superficially implemented. A general trend has been that teachers are facing challenges in implementing the curriculum whether in the adoption of participatory teaching methodologies, assessment procedures in general and CA assessment implementation, in particular. Basically, there is a disparity between what is stipulated in the curriculum documents regarding how the subjects should be taught (intention/planned), and how the teachers are actually teaching in the schools (actual/practice). In other words, like Stenhouse as well as Lovat and Smith argued, there usually exist gaps and mismatches between the planned/intended curriculum and the actual curriculum or what exactly happens in the classroom (see Stenhouse, 1975, 2008; 2014; Lovat and Smith 1995; 2003).

The problems cited that relate to the current study involves teachers’ inability to use participatory approaches (Mhango, 2008); integration of classroom assessment activities

during the teaching and learning process (Susuwele Banda, 2005) and teachers' lack of technical expertise in CA implementation (Matiti, 2009).

Although there is evidence that the cascade model of orientation used when training the teachers for the (PCAR) had its own challenges, it is unclear why the pre-service teachers, who were trained using a curriculum that was aligned with the goals of PCAR, should face similar challenges. This situation also gets worse considering that there has been no indepth research studies on the kind of preparation these teachers received during pre-service teacher education programmes for them to effectively implement CA. The next section therefore explores the role of teacher education in general which could have a bearing on effective CA implementation. It focuses on the kinds of knowledge domains that the teachers should possess for effective teaching in general and for effective CA implementation in particular.

### **3.6 Teacher education for continuous assessment**

Teachers are increasingly considered as the driving force for increasing learning and quality education. Since the purpose of teacher education is to produce effective practicing teachers (George, Worrell, Rampersad & Rampaul, 2000) and/or to "give a student a competence in a subject matter" (Eble, 1988, p. 197), it follows therefore that pre-service teacher education programmes have a role in giving pre-service teachers competence in CA implementation strategies. This then implies that a considerable investment, on how teachers are actually prepared during pre-service teacher education for the enormous task of CA implementation ahead of them, could pay great dividends. It is recognised that there is a strong relationship between how students learn and the quality of their teachers. This relationship can also be extended to that of the pre-service teachers' ability to learn how to implement CA successfully in the schools. That is, this ability will essentially depend on the knowledge attitudes and practices of their teacher educators, and the kind of preparation they received during pre-service teacher training. Accordingly, there should be a strategy in place in teacher education programmes for training pre-service teachers for them to become successful implementers of CA. This observation does not in any way overlook the fact that there might be several other ways through which the classroom teacher can gain the pedagogical content knowledge (Shulman, 1986) for the effective teaching, and in my case in implementing CA.

Although very little is known about how teacher education affects teachers' practices (Allen, 2003; Cochran-Smith, 2005; Tsang, 2003), the fact still remains that teacher education matters the most. Teaching, just like other professions is a learned profession, and thus no-one was born a teacher as other mytheologists would want to make us believe. Hence the role of teacher educators and pre-service teacher education in preparing teachers who will become

practicing teachers and are able to implement CA as is stipulated in PCAR (the focus of this study) is central. The other fact is that, there usually has been the need to align teacher education with education reforms which may be due to “political change, innovative technologies, economic globalisation, demographic shifts and workplace restructuring” (Pretorius, 2004, p. 47). Pretorius (2004) also argues, “Transformation of an education system and its facets, such as education policy, the curriculum, management and governance of schools, cannot take place without major consequences on teacher education”. This is the very same understanding that saw the reformation of teacher education programme in Malawi to align itself with changes that occurred following the introduction of PCAR. It would be argued that the reformation of the initial teacher education curriculum in response to PCAR was aimed at enabling teacher education to produce relevant primary school teachers competent in all aspects as stipulated in the new national curriculum and other supporting documents such as the Assessment Guidelines (MoEST, 2009).

The above views granted, there is also evidence that some teachers teach the way they were taught and use very little knowledge gained from their training (Grossman, 1990; Ware, 1992). If this is true, then it is reason enough for teacher education programmes to use robust pedagogies that are capable of changing the mind-set of the pre-service teachers approach to teaching so that they should later become critical and creative teachers. Simply put, the way teachers may teach in the schools, will depend on the kind of preparation they actually experienced. To this end, Darling-Hammond, Wise and Klein (1999) noted that the quality of teaching occurring in schools is directly linked to the quality of this pre-service preparation. The same view is also shared by Poppleton (1999, p. 233) who suggests that “when schools fail, the causes are often seen to lie in the quality of the teaching provided, which, in turn, is seen to reflect the quality of training the teachers received and, finally, the quality of those who provided that training”.

Arguably, these observations support the important role of teacher education in the preparation of teachers. Teacher education programmes support the pre-service teachers to be familiar with the content they will be teaching; knowledge of how to impart the content; how to manage classrooms as well as assess student learning, among others. Good teacher education programmes are supposed to impact in the teachers’ professional responsibilities. However, available studies have also indicated inadequacies in the way teachers are prepared for their work. For example, some research has shown that “most prospective teachers lack adequate general academic preparation, and that both novice and experienced teachers lack many pedagogical skills and motivation and professional commitment to teaching” (Lockheed et al., 1991, p. 90). Relative to assessment practices, there is also evidence that suggests that

a significant proportion of teachers report uncertainty or a desire for improvement in their assessment practices (Young & Kim, 2010). In addition to this, Smith (2011) notes that one of the major obstacles to teachers' professional development in assessment for learning is competence in assessment for learning. However, Lockheed et al. (1991, p. 92) contended, "a first determinant of teacher effectiveness is their general academic preparation", and argument also shared by Chappuis and Stiggins, (2002). On this Chappuis and Stiggins (2002, p. 43) argued, "hold appropriate teacher training as being central in improving the accuracy of their day-to-day assessments; make their feedback to students descriptive and informative, and increase the involvement of students in the entire assessment process". Bennett (2011, p. 19) on the other hand, emphasised that the role of pre-service teacher education institutions should be "to provide teachers with the fundamental skills they need to support and implement assessment effectively". This notion is also endorsed by the World Bank that asserts, "Assessment literacy should be included in teacher training" (see World Bank, 2008, p. 65).

Literature cited this far has provided us with enough evidence that there is a concern on how teachers are prepared for their work, and how this can be improved. It posits an argument that, for teachers to possess the knowledge domains for effective CA implementation, it all depends on the knowledge domains that their teacher educators possessed. The teacher educators who are responsible for preparing teachers for their world of work must thus possess certain kinds of knowledge domains relevant for supporting effective CA implementation. It is also argued that appropriate teaching strategies, necessary for effective knowledge and skills transfer for CA implementation, should be utilised during instruction in the teacher preparation programmes.

The above discourses have provided an argument for the role of teacher education in the preparation of teachers for effective teaching in general and CA implementation in particular. However, it remains a puzzle why teachers still demonstrate signs of inadequacies in their general teaching duties as well as in their assessment practices having gone through teacher preparation programmes. What seems to be lacking, is an understanding of the actual training processes that pre-service teachers undergo while in the hands of their educators. More so, not only should the interest be on how teachers are actually prepared but also on the quality of the teacher educators themselves.

Although literature provides information regarding what teachers should know and be able to do (Shulman, 1986), such information is scanty on the part of teacher educators. For example, what knowledge domains should teacher educators possess necessary for producing effective pre-service teachers who can effectively teach in schools on the one hand, and for effective

CA implementation on the other? The coming section examines the teacher educator knowledge domains for CA implementation. It focussed on the question “What should teacher educators know, and be able to do when preparing pre-service primary school teachers so that they are able to implement CA effectively in the schools?”

### **3.7 Conditions for continuous assessment implementation**

#### **3.7.1 Teacher training context**

The environment where pre-service teachers are trained plays a significant role in enabling their ability to implement CA in the schools. Most importantly, the lecturers’ knowledge of assessment in general and CA in particular and other aspects of the teaching profession are essential. Likewise, the leadership of the institution and resource availability needed to support CA instruction are equally vital and these have been explained below.

##### **3.7.1.1 *Teacher educator continuous assessment knowledge***

There have been gaps within educational research, especially on teacher cognition. For example, Shulman (1986, p. 25) stated, “Where the teacher cognition programme has clearly fallen short is in the elucidation of teachers’ cognitive understanding of the subject matter and the relationship between such understanding and the instruction teachers provide for students”. Considering that teaching is a learned profession, Shulman (1986), suggested that there were certain knowledge domains that teachers should possess in order for them to become successful in their duties. He further argued that teachers should not only be able to know and understand the content to be taught; that is, being masters of the subject matter to be taught, but should also know and understand how to teach that subject matter (Ball & Cohen (1999) . This is what Shulman (1986) described as pedagogic content knowledge (PCK). He distinguished three categories within the domain of content knowledge: curriculum knowledge, subject matter knowledge and the category named PCK (Carlsen, 1999). PCK was described as “the particular form of content knowledge that embodies the aspects of content most germane to teachability” (Carlsen, 1999, p. 137). Shulman (1987) identified seven categories which included PCK in the knowledge base for teaching: (1) content knowledge, (2) general pedagogical knowledge, (3) curriculum knowledge, (4) PCK, (5) knowledge of learners and their characteristics, (6) knowledge of educational contexts, (7) knowledge of educational ends, purposes and values, and their philosophical and historical grounds. He defined PCK to represent “the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organised, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction” (Shulman, 1987, p. 8). Different scholars, including Shulman himself have come up with different categories of domains of teacher knowledge. Since Shulman introduced the concept

of content knowledge (CK) and pedagogical content knowledge (PCK), a number of studies have been conducted either focusing on the areas that comprise the areas of teacher knowledge or how teachers develop PCK in different subject areas. For example, Grossman (1990, p. 5) came up with “four general areas of teacher knowledge namely: general pedagogical knowledge, subject matter knowledge, PCK, and knowledge of the context. Grossman defines general pedagogical knowledge as knowledge concerning learning and learners, knowledge of general principles of instructions, knowledge related to classroom management, and knowledge about the aims and purposes of education. Knowledge of context includes “knowledge of school setting, for example culture, and knowledge of individual students” (van Dijk & Kattmann, 2007, pp. 888-889). To acquire such knowledge, one requires time, skills, and experience. Some studies have examined how teachers develop PCK in different subject areas and subject topics which has led to the existence of “topic specific PCK”. The researchers felt that each topic in the curriculum cannot be taught in the same way.

From these studies, one thing that came out clearly was that teachers need to possess certain kind of knowledge for teaching. For them to acquire this kind of knowledge, they should be exposed to it while on training or through well designed teacher professional development. This observation therefore clearly justifies the need for thorough preparation of teachers for their world of work. What may not be clear is what is meant by the notion “thorough”. In addition to this, teachers are also supposed to possess essential dimensions of teaching practices identified by researchers over the years which embody what “content is to be taught; how the content is to be presented; how students and teaching materials are to be organized, and how students’ on-going learning is to be responded across subject areas” (Chen, Mason, Staniszewski, Upton & Valley, 2012, p. 26). These four essential dimensions of teaching practices make up what is known as quality of teaching which are “task design, task presentation, task management, and instructional response” (Chen, Mason, Staniszewski, Upton & Valley, 2012). A good foundation in the subject matter to be taught coupled with appropriate teaching methodologies can be said to be necessary though not sufficient conditions for teachers’ success in teaching.

Although there is a profusion of literature regarding what teachers should know and be able to do for them to be effective in their teaching, there has been a scarcity of research that examined the kinds of knowledge domains that teacher educators should possess for effective teacher preparation (cf Darling-Hammond & Bransford, 2005; Interstate Teacher Assessment and Support Consortium (ITASC), 2011; National Board for Professional Teaching Standards (NBPTS), 2013). This is unsurprising because “there seem to be commonalities between skills



and competencies for teaching and teacher educating” (Goodwin et al., 2014, p. 286). Despite the commonalities, it would appear that those responsible for educating teachers should possess certain knowledge domains that would distinguish teacher educators from teachers since teacher educators cannot teach what they do not know, and are expected to be more knowledgeable than the teachers they teach. It thus sounds logical that the pedagogical practices of teachers should be different from those of the teacher educators because the work of teachers and teacher educators while related, involves unique activities, different contexts, different pedagogies and skills (also see Bullock & Christou, 2009; Dinkelman, 2002; Murray & Male, 2005).

In an attempt to unearth the teacher educator knowledge domains, Goodwin et al. (2014, p. 286) citing Cochran-Smith and Lytle (1999, pp. 249-250) “relationships of knowledge and practice” in relation to teacher learning, described kinds of knowledge necessary for teacher educators. These included *knowledge-for-practice* (formal knowledge and theory which consists of knowledge about content/ subject matter, learning theories, human development, pedagogy, assessment, educational foundations, social and cultural contexts of schools and schooling as well as knowledge of the teaching profession and teacher education); *knowledge-in-practice* (practical knowledge embedded in practice and in teachers’ reflection on practice); *knowledge-of-practice* (generated when teachers treat their own classroom and schools as sites for intentional investigation). Goodwin et al. (2014) suggest that *knowledge-for-practice* is gained through formal study while in college (initial teacher education); *knowledge-in-practice* is acquired through experience and on the job through their own experimentation or observing others or observing and emulating others and *knowledge-of-practice* is acquired through teacher education research. All these sources contribute to the knowledge base teacher educators should have and be able to apply.

Considering the fact that research indicates that teachers are inadequately prepared for assessment in general and CA in particular, for effective CA implementation in the schools, teacher educators ought to possess *knowledge-for-practice*, *knowledge-in-practice* and *knowledge-of-practice* in assessment and evaluation in general and CA in particular.

Since *knowledge-in-practice* is acquired through experience and while working and *knowledge-of-practice* is acquired through the teachers’ or teacher educators’ engagement in teacher education research, we are left with *knowledge for practice* which either the teachers or teacher educators should acquire through formal study in teacher/teacher educator preparation programmes. It, therefore, sounds logical to suggest that for effective CA implementation to happen in the schools, both teacher educators and teachers should possess *knowledge-for-practice* in areas of assessment and evaluation in general and CA

content knowledge (CACK) and CA pedagogical content knowledge (CAPCK) in particular. CACK should include topics on assessment and evaluation in general and topics related to CA implementation in particular as stipulated in the Foundations Studies course of the IPTE curriculum such as principles of assessment; CA guidelines; CA for learning aspects; the skills of integrating teaching, learning and assessment during instruction, creation of a conducive teaching and learning environment, aligning questions to the curriculum, ability to probe into pupils responses, identifying learners problems, providing effective and timely feedback, and involving learners in peer and self-assessment and general guidelines for CA implementation.

The TTC lecturers and pre-service teachers should also possess the specialised knowledge relevant for CA implementation which is, in this study, referred to as CA pedagogic content knowledge (CAPCK). CAPCK is thus being defined as the amalgamation of knowledge and understanding of CACK with the knowledge and understanding of how to teach that subject matter or the strategies of CA implementation.

I also consider CA pedagogical content knowledge (CAPCK) as focusing on the methods of CA in general as well as CA topics at specific levels. The instructional strategies that lecturers use to present and explain how the pre-service teachers are to implement CA in the schools is crucial if they are to succeed in the classrooms. The assumption is that there must be connections between what TTC lecturers know about CA, and how it is to be implemented in the schools. Therefore, both TTC lecturers and pre-service teachers should possess knowledge domains related to CACK and CAPCK in addition to general teaching methods. TTC lecturers and pre-service teachers cannot be expected to implement what they do not know and how to do it. It is, therefore, the responsibility of lecturers in the TTCs to ensure that pre-service teachers are equipped with these knowledge domains as well as the dimension of teaching practices during training.

To sum up, for teacher educators to be able to prepare teachers who are able to implement CA successfully, I suggest that the teacher educators should possess certain knowledge domains besides the usual knowledge about learning and teaching as well as effective teaching methods and classroom management for diverse classrooms. Teacher educators should thus have knowledge of assessment and evaluation in general; CA content knowledge as well as CA pedagogical content knowledge. The possession of knowledge and skills is what Medley (1982) described as “teacher competence” and the use of this knowledge and skills in the classroom is what he referred to as “teacher performance”. However, successful CA implementation may require that the lecturers expose the pre-service teachers to the process

that is involved in actual CA implementation. Thus, the section that follows presents the process for enacting CA.

### **3.8 The process for enacting continuous assessment**

Despite the challenges that teachers face in effective implementation of formative assessment which has been argued to be similar with CA in this study, (see Sebatane, 1998) for the formative assessment implementation problems in developing countries; literature indicates the possibility of implementing formative assessment in the classroom (Heritage, 2010). In her book “Formative Assessment: Making It Happen”, Heritage describes the cyclic process of formative assessment (see Heritage, 2010, p. 11). She also presents the knowledge and skills for formative assessment (p. 102). Towards the end of the book, she discusses what teachers need to know and be able to do when implementing formative assessment (pp. 99-116). These practical approaches in how to make formative assessment/continuous assessment work should be the core of the instructional strategies that TTC lecturers could adopt or adapt. The study, therefore, suggests incorporating the process of how to make formative assessment work in the classroom in the preparation of pre-service teachers for effective CA implementation at the school level (see Figure 3.1) The argument being advocated is that what teacher educators do should mirror what the teacher trainees will actually be doing in the schools after their graduation. A discussion of the instructional strategies for effective CA implementation in the schools follows.

#### **3.8.1 Instructional strategies for continuous assessment implementation**

The way teachers teach and the amount of learner involvement during the learning and teaching session have led to scholars classifying instructional/teaching strategies differently. In this study, “instructional strategies” are taken to mean the methods that lecturers use in the learning and teaching processes. This does not in any way undermine the “materials” (Weston & Cranton, 1986, p. 259) which lecturers use in the process.

While Borich, in his book ‘*Effective Teaching Methods*’, classified the instructional strategies as direct instruction (DI) and indirect instruction (II) (Borich, 1988); on the other hand, Giaconia, (1987) classified them as open versus formal methods. However, Withall (1987) classified the instructional strategies as being teacher-centred and learner-centred. Other than these, Weston and Cranton (1986) classified them as Instructor centred, interactive methods, individualised learning methods and experiential learning methods.

Terms such as active learning teaching strategy, and participatory learning strategy are not uncommon and are associated with learner centred instruction or indirect instruction.

Regardless of the different nomenclature used to classify the instructional strategies, the basic principle regarding the classification is who does what during the learning and teaching processes. Is it the teacher or teacher educator who dominates during the lesson delivery by providing information to the learners while the learners are passive recipients of the information? And are the learners actively involved or do they take a larger portion in knowledge creation?

Each of the above instructional strategies has its philosophical as well as epistemological underpinnings and implications. For the purpose of this study, the direct and indirect classification of the instructional strategies was used because it had a semblance with the strategic pedagogy introduced in chapter 5. Therefore, a description of the two instructional strategies follows below.

Direct instruction which is also known as explicit instruction involves teachers presenting information in an organised manner to the learners. It is usually used when the teacher/teacher educator would like to teach skills, facts, rules and sequences. The teacher or teacher educator determines what content is to be learned, and how it is to be learned in the process of content delivery. As opposed to the direct instruction, teachers or teacher educators and learners are involved in knowledge creation when using the indirect instruction (co-creators). Teachers or teacher educators play the role of facilitators during the learning and teaching processes, and involve the learners in discovering or co-creating knowledge. This instructional strategy is especially useful for teaching learners how to solve problems, inquire and learn concepts. It needs to be pointed that each of the approaches has its own merits and demerits. In addition, both approaches may be utilised within a single lesson to complement each other. The choice of instructional strategy may depend on the content to be taught; the characteristics of the learners, and the context in which the teaching is taking place. In this regard, Petrina (in press, p. 127) suggests "Instructional strategies, or teaching methods, depend on a number of factors such as the developmental level of students, goals, intent and objectives of the teacher, content, and environment including time, physical setting and resources". A consideration of the above factors in the choice of instructional strategy may contribute, to a large extent, to effective teaching.

In an effort to determine how and why some teachers are more effective than others, a number of variables have been put forward that try to explain this variance. For example, Polk, (2006) identified ten characteristics of effective teachers. However, he focuses on four of the identified traits namely professional development, communication ability, personality and modelling (Polk, 2006). Whilst Polk discusses the impact of these traits on teaching effectiveness, he also acknowledges the fact that these factors do not operate in isolation as he argued,

“Combinations of characteristics and methods that teachers use to achieve those results may seem endless” (p. 23). However, it should also be borne in mind that the environment in which the teaching occurs can also have a profound impact on achievement. For example, it has been indicated that teachers’ superficial CA implementation in countries where it was introduced was due to large class sizes. It would therefore be appropriate that TTC lecturers ought to introduce pre-service teachers to pedagogies that can function with large class sized contexts as well as using instructional procedures that would enhance knowledge and skills transfer. In order to achieve this, the lecturers ought to model their instructional procedures through demonstrations while allowing the pre-service teachers to immediately practice what they have learned.

However, it would be fair if teachers or teacher educators varied the methods, in order, not only to accommodate learners of different learning needs but also to avoid monotony. It is, therefore important that teacher educators’ choice of instructional strategies should be based on the benefits for using such strategies while taking into account the classroom realities where these upcoming teachers will be practising after graduation.

This study assumes that TTC lecturers should use instructional strategies that would enhance knowledge and skills for successful CA implementation. It nevertheless acknowledges the fact that teacher educators competence and performance, which do interact with the environment in which learning and teaching occurs hence can either enhance or hinder the success of the processes including CA implementation.

The section that follows examines some of the factors which may interact with the teacher/teacher educators’ competencies and performances for successful implementation of CA.

### **3.8.2 Factors influencing continuous assessment implementation in the schools**

#### **3.8.2.1 *Teacher competence and performance***

The successful implementation of CA depends on the competencies and performance that either teacher educators or teachers have regarding CA. However, in Malawi and perhaps elsewhere, it is possible that the lecturers and teachers may possess the required competencies. Stoof, Martens and van Merrenboer (2000) conceived these competencies as comprising an integrated body of knowledge, skills and attitudes. However, possession of the necessary competencies is one thing, and putting those competences into practice is yet another thing. Possession of the competencies may just represent a potential for the behaviour to be manifested and not the behaviour itself. Some other conditions should be satisfied for

the competencies to manifest. For example, Korthagen (2004) is of the opinion that “circumstances” (p. 80) play a considerable role for the competencies to be actualised.

Moreover, in trying to explain the causes of the gap between theory and practice, a number of reasons have been cited in literature. These include the way teachers are socialised towards patterns existing in the schools; the complex nature of teaching that is “what a teacher does in a classroom being influenced by the interaction of many elements such as the curriculum and the context, and how students respond to instruction at one particular time” (Hobman, 2005, p. 9) as well as the knowledge that teachers have before joining the teacher education programme (Wubbels, 1992). Besides these, the preconceptions that teachers have, may contribute to remarkable resistance to change (Joram & Gabriele, 1998), which in part can be explained by their firm roots in the many years of experiences the student teachers themselves have had as pupils within the educational system (Lortie, 1975). The final reason is what Korthagen (2004) refers to as epistemological wherein teachers often have little time to think, and thus need prompt and concrete answers to situations (also see Eraut, 1995). All these could be considered as filters or threats to effective CA implementation.

### **3.8.2.2 School quality**

In addition to the teachers’ or teacher educators’ competencies and performance, effective instructional approaches depend also on favourable environmental factors within which teacher educators and teachers function both at classroom and college levels.

The school and classroom environment have potentials to facilitate or hinder effective implementation of CA. This is the reason Biesta and Tedder (2006) argued, “the environment in which individuals find themselves may enable or constrain their agentive action”.

It can, therefore, be argued that there is interplay of factors due to the teacher effects (teacher competencies and performance) on the one hand, and environmental effects (school quality) on the other. Relative to this, Susuwele-Banda (2005, p. 133) identified some factors that contribute towards teachers’ performance in the classroom which include “teachers’ knowledge, skills and experience, lack of teachers’ support, large class sizes, inadequate teaching and learning resources, inequitable distribution of resources and ill preparation of teachers.” In relation to CA implementation, the teacher effects may include, how knowledgeable the teacher is in as far as CA implementation is concerned which will also depend on his/her attitude, beliefs and values towards that CA implementation, and willingness to enact during the classroom situation. This can also be enhanced by the learners’ willingness to learn, and be involved in the CA implementation activities.

The environmental factors that may either facilitate or hinder effective CA implementation include infrastructure where teaching and learning occurs, class size, teaching and learning resources, the support teachers get from the school leadership and other teachers, community support, learner enthusiasm and the presence or lack of effective monitoring and evaluation. This may occur at both teacher training and school levels.

Large class size can be detrimental to effective CA implementation since teachers may be challenged to effectively monitor and offer necessary individual learning support to each learner as is required in CA. As indicated elsewhere, integrating teaching, learning and assessment requires that learners who are progressing in classroom activities are given enrichment activities; whereas those who are not making progress are given remedial activities. This can be done successfully in manageable class sizes but not large classes.

Availability of teaching and learning resources during CA implementation is also essential. These resources may include those that assist teachers in teaching and learning such as record books, charts, and those that learners use during the teaching and learning processes.

In addition, successful CA implementation requires the continued support from both the school leadership, members of staff, the community, and effective monitoring and evaluation. The school leadership needs not only be conversant with CA implementation but also be in the forefront providing the necessary resources and supporting the implementation of CA at all levels. School managers who have negative attitudes towards CA may not consider the provision of teaching and learning resources needed for successful CA implementation. Such leaders may not even consider providing room for continuous professional development (CPD) in the areas of CA implementation. It is also important that all teachers at an institution must be seen to be advocating activities related to CA implementation. These teachers also need the support of other stakeholders such as PEMAs and PEAs who are responsible for monitoring and evaluation. It, therefore, follows that there needs to be harmony at all institutional levels between teacher effects and environmental effects for effective CA implementation to occur. However, evaluation studies on the implementation of CA in Malawi has indicated that these environmental and classroom related factors constrain effective CA implementation (Matiti, 2009, Chulu & Chiziwa, 2010, Chiunda & Kuopsya, 2011).

In addition to these, literature provides some reasons why there are problems with knowledge and skills transfer in the institutions (Omrod, 1999). Therefore, the coming section highlights some factors that can either facilitate or hinder knowledge and skills transfer.

### **3.8.2.3      *Enhancing knowledge and skills transfer during instruction***

Transfer implies that knowledge or skills gained in one situation is either used in a different context as a way of demonstrating the acquisition of the knowledge or skill or when solving problems. For example, pre-service teachers could demonstrate knowledge and skills transfer in the classrooms when they are able to implement what they have learned regarding how to implement CA, and /or they can use their knowledge to solve CA implementation problems.

Omrod (1999) provides different types of transfer such as “positive versus negative transfer; vertical versus lateral transfer; and specific versus general transfer” (Omrod, 1999, p. 348-350). Omrod presents the factors that affect transfer regardless of the type of transfer in question. For example, provision of meaningful learning; how thoroughly something is learned; the extent to which the two situations: stimuli and responses are similar; the nature of the material learned whether principles or knowledge; provision of numerous examples and opportunities for practice, and the time interval between the original task and the transfer task.

While meaningfully learned material can be more easily stored and retrieved than information learned at rote level, it also promotes positive transfer (Omrod, 1999, p. 354). Omrod also indicated that “the more thoroughly something is learned, the more likely it is transferred to a new situation” (Omrod, 1999, p. 355). This, in part, tries to explain why most teachers expressed dissatisfaction on the way they were oriented in PCAR and CA implementation procedures arguing that the one-week orientation was inadequate (Matiti, 2009). On the degree of similarity between two situations, Omrod (1999) states that “the more similar two situations are, the more likely it is that what is learned in one situation will be applied to the other situation” (Omrod, 1999, p. 355). This then supports the idea that TTC lecturers should be role models in as far as CA implementation is concerned. They should demonstrate to the pre-service teachers how to implement CA in the lecture rooms for them to observe and practice what they have learned. Simply put, whatever occurs in the lecture rooms should be a mirror of what the pre-service teachers will actually be doing in the primary schools when implementing CA for ease of transfer.

Again, Omrod (1999) indicates that “numerous and varied examples and opportunities for practice increase the extent to which information and skills will be applied to new situations” (Omrod, 1999, p. 356). Provision of numerous examples and opportunities for practice, enable the learners to understand the material learned well than when few examples and no opportunities for practice are provided. For this reason, I would like to suggest extending the adage of “Practice makes perfect” to “Practice of the right thing and at the right time makes perfect”. Related with CA implementation, pre-service teachers can learn and understand CA implementation, especially when numerous examples of the concepts taught are provided. In



addition, the pre-service teachers should be given an opportunity to practice what they have learned either during peer teaching or practicum.

Omrod, (1999) suggests also that in order to increase the probability of transfer of knowledge and skills learned, the time interval between the original task and transfer should be short. This implies that immediately, after the pre-service teachers have learned the material, they should be provided with the opportunity to practice what they have learned at a demonstration or practice school.

### **3.9 Summary of the literature review**

The review of the literature has shown that formative/continuous assessment has the potential to improve student learning. In addition, the literature review has indicated that the central role of CA is enhancing learner achievement which will eventually lead to no child left behind. Nonetheless, primary school teachers in Malawi and other SADC countries predominantly avoid implementing CA as stipulated; and/or, they slavishly follow what is stipulated in the CA guidelines, and instead opt for traditional approaches.

Conversely, teachers who show commitment to use CA in their classroom have experienced numerous challenges. However, research has shown the important aspects of CA that if implemented well, it can improve learner achievement. For this to be achieved, pre-service teacher education programmes should prepare the teachers for CA implementation while in college using instructional procedures that enhance knowledge and skills transfer. Noting that teaching is a learned profession, it sounds reasonable to assert that initial teacher education programmes play crucial roles in preparing teachers for their world of work including CA implementation. The need to acquire CACK and CAPCK while on training cannot be overemphasised. Nevertheless, the literature so far reviewed has convincingly indicated that teachers, although oriented and trained, are unable to implement CA as required. It is, therefore, argued that the instructional procedures that the teacher educators should use in initial teacher education programmes should be robust in enhancing knowledge and skills transfer to the pre-service teachers.

Beyond this it has also been noted that there are a number of constraining factors responsible for unsuccessful CA implementation. The literature review has also indicated that there are some factors that need to be fulfilled if theory is to be put into practice. Informed by the concepts in the literature review, the section that follows presents the conceptual framework for the strategic pedagogy for pre-service teacher education for effective CA implementation in Malawi.

### 3.10 Conceptual framework

A conceptual framework is a visual representation of an aspect of reality that is generated from the key concepts drawn from the review of related literature. A researcher uses the already existing concepts in the review of the related literature in order to come up with something new. Conceptual frameworks “are used to understand reality and the relationships between and among the concepts” or “are used as a lens in attempting to make sense of the world (Anderson, 2004, p. 27).

The conceptual framework (Figure 3.3) was informed by general systems theory (von Bertalanffy, 1968). In inputs, processes and outputs contain concepts such as lecturer knowledge domains that are influenced by the college environment and lecturers’ competence and performance; instructional strategies the lecturers use; graduate teacher competence and performance which is also influenced by the school quality, and effective monitoring and evaluation. It is envisaged that when these elements are put in place, it would ultimately lead to an effective CA implementation.

In the main, the output of any activity depends on the input and the processes involved in the whole process. Similarly, the successful preparation of pre-service teachers for effective CA implementation in Malawi (output), would require effective input at the teacher education level which include lecturers’ acquisition and utilisation of relevant knowledge domains of general teaching and learning, assessment and evaluation, CA knowledge (CAK) as well as CA pedagogical content knowledge (CAPCK) and classroom management. In other words, possession of appropriate teacher educator knowledge domains alone is not an end in itself, but rather the means to an end towards effective CA implementation. This is so because effective CA implementation at a school setting requires the presence of favourable college environment such as leadership quality, infrastructure, as well as the characteristics of the pre-service teachers, and the teacher educator competence and performance.

The process in the framework refers to the instructional procedures that the lecturers utilise which depend on their knowledge domains, college environment and competencies and performance. Finally, the framework suggests that effective CA implementation also depends on the quality of the graduates of the teacher education programmes in terms of their competencies and performance in CA implementation. This competence is influenced by the quality of the school, and the kind of support they get through monitoring and evaluation. In other words, for the teacher to be able to implement CA effectively, it depends on his/her acquisition and effective internalisation of the knowledge domains similar to what the teacher educators possess. As the teacher preparation aims at producing teachers who will be able to

discharge their teaching as well as assessment duties effectively, a deliberate effort must be made to provide the pre-service teachers with a model of what they will actually be doing.

Based on the conceptual framework and reflecting on literature reviewed on effective teaching strategies, pre-service teacher education programmes have a responsibility to prepare teachers who should be able to implement CA effectively. The instructional procedures that can enhance knowledge, skills acquisition and transfer for effective CA implementation should be those that engage the pre-service teachers through observing lecturers' demonstrations as well as practising what the lecturers demonstrated. Pre-service teachers need to effectively participate during the instruction either by answering questions or generating questions where they do not understand. They should be given an opportunity to reflect on what they learn from their lecturers and appreciate the challenges that lie ahead; in as far as CA implementation is concerned. To achieve this, lecturers should be role models on how to implement CA by demonstrating to the students how to implement it as well as providing the pre-service teachers with the opportunity to practice it and receive feedback about their ability to implement it. Modelling has been explained as the process whereby an observer displays behaviour patterns such as thoughts, beliefs, and actions similar to the ones displayed by the model(s) (Schunk, 1987). Research indicates that modelling is useful for acquiring literacy skills, beliefs, attitudes, and behaviours (Rosenthal & Zimmerman, 1978). Bandura, (1986) presented four processes involved in observational modelling namely: attention, retention, production, and motivation. Modelling depends on the observers paying attention to what is being demonstrated. The observers should also make an effort to retain the information by mentally coding and transforming modelled information to facilitate memory. In addition, the observers should be able to produce or enact what they observed through the modelling process. Finally, for observation learning to occur through modelling, the observers must be motivated to do so. In addition, the instructional procedures should also provide an opportunity for the students to practice what they have learned. This kind of lecturer and student interaction during the instruction will provide both the lecturers and pre-service teachers with an opportunity to evaluate their strengths and weaknesses beforehand.

It, therefore, follows that the instructional procedures that lecturers use ought to provide room for evaluation or reflection on whatever the lecturer and pre-service teachers have done. In order for this to be successful, lecturers need to model all their instructional process on all aspects of CA during the instructional process.

In order for CA to be an effective way of enhancing learning, classroom interactions that occur between teachers and learners through questions and answers and the provision of effective feedback should be central during the instructional process. Back and Trauth-Nare (2009)

citing Jones and Moreland (2005), state that “effective formative assessments are dependent on the teachers’ ability” to interpret observations and student outcomes, and consequently act upon the interpretations to enhance student learning” (p.196). For teachers to be able to provide effective feedback, they must understand how learning occurs. They should have an idea of what is going on in the minds of the learners when responding to questions so that they are able to offer constructive feedback. This depends on the teachers:

- having a thorough and deeper understanding themselves of the subject matter to be taught; how pupils are likely to learn, and the difficulties and misunderstandings they are likely to encounter;
- having a clear idea of the progression in the ideas, skills, etc. which are the goals of learning, and the course pupils are likely to take in this development;
- being able to recognise the point in the development reached by their pupils;
- knowing and being able to use various strategies to find out, and to develop pupils’ ideas, skills, etc (Harlen & James, 1997, p. 369).

In addition, during the instructional process, formative assessment/continuous assessment should centre on the following types of activities (William, 2000; Black et al. 2003; William, 2007b):

- sharing success criteria with learners
- classroom questioning
- comment- only marking
- peer and self-assessment
- formative use of summative tests.

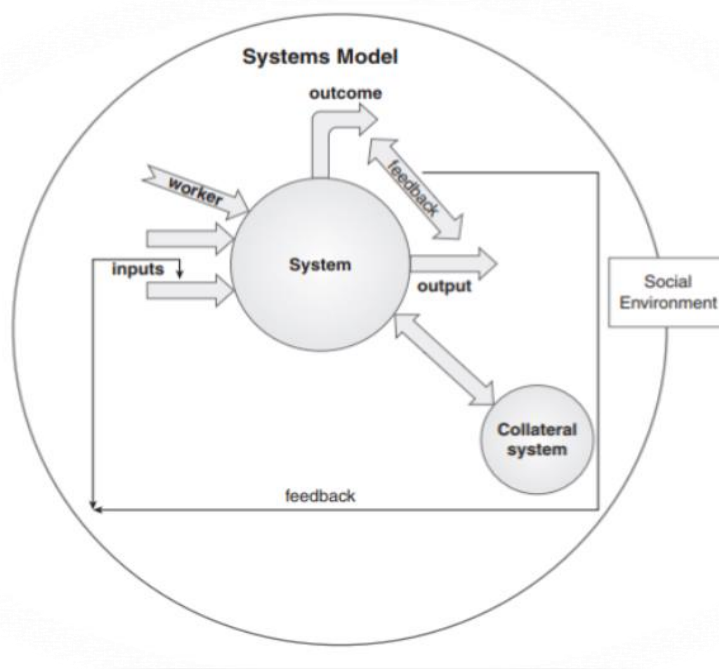
This is achieved through the feedback that is provided to learners during continuous assessment. It is this kind of assessment that is considered to contribute to quality education because when learners are assessed on how they apply what they have learned; how they use evidence provided to them, and how they demonstrate their knowledge of procedures and concepts in relation to a subject, the learners will understand their mistakes and will willingly deal with the problem (Boud, 1990; Barnes, 2000).

Drawing on Ramaprasad’s (1983) key processes in learning and teaching, William and Thompson (2007) provide a better theoretical grounding for formative assessment as:

- establishing where the learners are in their learning;
- establishing where they are going;

- establishing what needs to be done to get them there (Black & Wiliam, 2009, p. 7).

All these suggest that teacher educators should be role models in all the aspects of CA implementation, and the key processes of formative/continuous assessment presented above. For effective implementation of CA, TTC lecturers and student interaction should focus on all aspects of formative/continuous assessment (Black & Wiliam, 2009; Heritage, 2010) shown in Figure 3.1 below which also form the CAPCK that lecturers should possess.



**Figure 3.1: Systems Model (Source: Friedman & Allen, 2014, p. 5)**

In other words, for pre-service teachers to be able to implement CA effectively, it depends on their acquisition of subject matter domain in CA as stipulated in the CA guidelines, the CA pedagogic content knowledge, theories of learning, and principles of assessment. The pre-service teachers should also be given the opportunity to practice and receive feedback on their practice while on training.

The next concept in the framework is graduate teacher competence and performance after the training. It is possible for teacher education to provide all the necessary resources and opportunities on how to implement CA in the schools, but the actual implementation will be done by the pre-service teachers. The degree to which the graduate teachers are competent and are able to implement CA effectively is outside the realm of the lecturer, the college

environment and the instructional procedures they went through. Graduate teacher competencies in CA implementation will also be impacted upon by the quality of the school where they will be teaching. Here the quality of the school may includes school leadership, infrastructure, and learner enthusiasm and community support, just to mention some.

Where the learner is going    Where the learner is right now    How to get there

Teacher	1. Clarifying learning intentions and criteria for success	2. Engineering effective classroom discussions and other learning tasks that elicit evidence of student understanding	3. Providing feedback that moves learners forward
Peer	Understanding and sharing learning intentions and criteria for success	4. Activating students as instructional resources for one another	
Learner	Understanding learning intentions and criteria for success	5. Activating students as the owners of their own learning	

**Figure 3.2: Aspects of formative/continuous assessment (In Black, & William, (2009, p. 8)**

The school leadership will have a role in the effective implementation of CA by morally and financially supporting the CA implementation activities. The class size and availability of teaching and assessment resources will determine how well CA is implemented at the school level. In addition, the characteristics of the learners play a major role in the successful implementation of CA. Since learners are supposed to be actively involved through either peer or self-assessment activities, as well as owning their learning, their enthusiasm in doing all these will impact on the effective CA implementation.

Effective monitoring and evaluation of CA implementation cannot be ruled out. After pre-service teachers graduate from the TTCs, they need some kind of mentorship when they join the teaching profession. In Malawi, this kind of support is obtained from the heads of department, deputy head-teachers, and head-teachers as well as from the subject advisors who are known as primary education advisors (PEAs). Besides offering support to the

teachers, PEAs are also involved in monitoring and evaluation of the implementation of the PCAR in general and CA implementation activities in particular.

In summary, the conceptual framework suggests that for effective CA implementation to take place, it requires that the pre-service teachers should be taught by lecturers who are knowledgeable in general teaching and learning methods; assessment and evaluation; CA content; CA pedagogical content knowledge, and classroom management. The teaching should occur in an environment that is conducive to teaching and learning with good college leadership and enthusiastic pre-service teachers who are willing to learn how to implement CA and supportive members of staff.

Similarly, the instructional procedures that the lecturers use should also encourage active involvement of the pre-service teachers through practising CA implementation after observing the demonstrations by teacher educators, who should role model CA implementation. Evaluation should be at centre stage of the instructional procedure to determine the worth or merit of all the instructional processes. Effective CA implementation also depends on the graduate teacher's competencies which may also be impacted by the quality of the school and the availability of support at the schools. This include effective monitoring and evaluation by school managers such as heads of department, deputy-head teachers, head-teachers and PEAs.

The conceptual framework so far presented does not in any way overlook the fact that it is possible for pre-service teachers to be taught by TTC lecturers who have the pre-requisite knowledge domains, and who use appropriate instructional teaching strategies that enhance their competence and performance, but there could be challenges in knowledge and skills transfer.

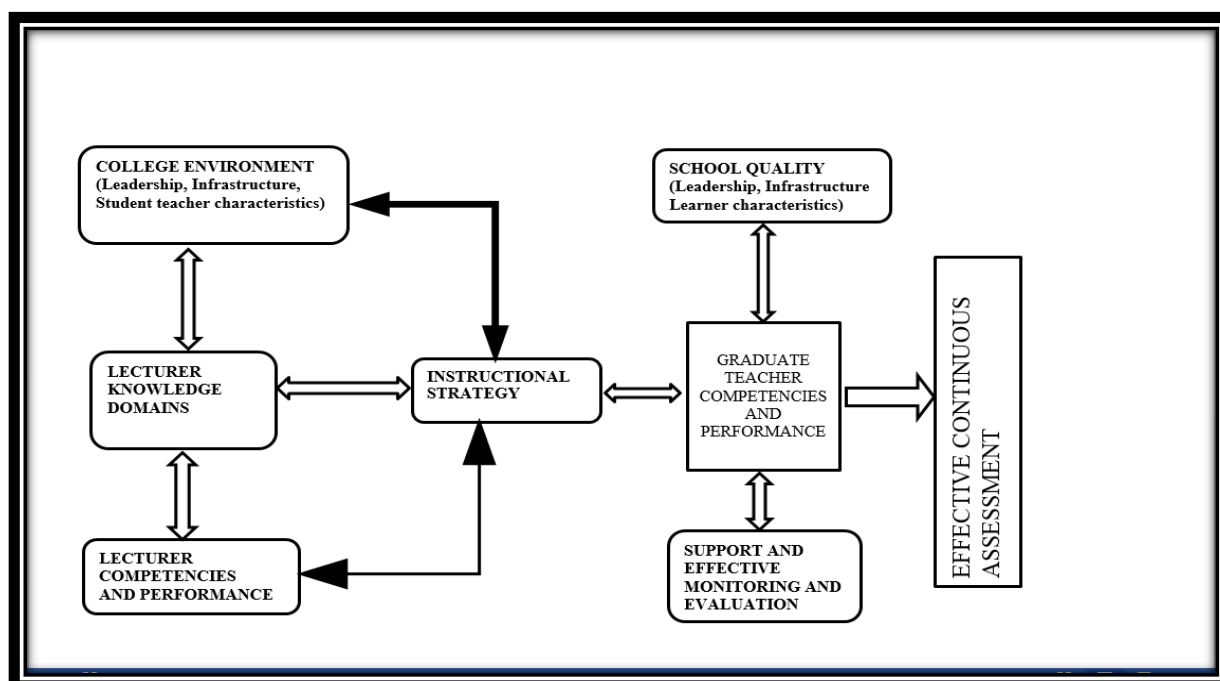
TTCs lecturers should thus have theoretical knowledge, understanding of CA pedagogic content knowledge (CAPCK), and transfer this to pre-service teachers who should also be given the opportunity to implement what they have learned and receive feedback while on training. In so doing, pre-service teachers will be exposed to PCK of CA implementation and how they can implement it in different contexts.

Furthermore, the instructional pedagogies which should involve the pre-service teachers should strive to enhance the factors that affect knowledge and skills transfer of CA implementation. A diagrammatic representation of the conceptual framework is presented in Figure 3.2, and is informed by Biesta and Tedder, (2006); Black et al., (2003); Goodwin et al., (2014); Harlen & James, (1997); Heritage, (2010); Hobman, (2005); Medley, (1982); Shulman,

(1986, 1987); Susuwele Banda, (2005); Wiliam, (2000); Wiliam, (2007b); Wiliam, (2009), and Wiliam & Thompson, (2009).

In the main, this conceptual framework indicates that effective CA implementation in the schools depends basically on TTC environment and school environment which are mediated by the instructional strategy used in the TTCs when preparing pre-service teachers for effective CA implementation. The TTC factors include the college environment proper; the lecturer knowledge domains of CA and the lecturer competences and performance. The TTC environment is influenced by the instructional strategies that the lecturers use which affect and are affected by the school environment or school culture. Some of the factors of the school culture include the school quality that is made up of school leadership, infrastructure and learner characteristics. The quality of the school affects and is affected by the pre-service teachers competences and performance related to CA implementation. However, the pre-service teachers' competences and performance can also be enhanced by the availability of effective monitoring and evaluation.

Having presented the review of the related literature and the conceptual framework for the study, the next chapter presents the research design and methodology that was used for this study.



**Figure 3.3 Conceptual framework for a strategic pedagogy for pre-service teacher education for CA implementation**



## CHAPTER 4

### OVERVIEW OF THE RESEARCH DESIGN AND METHODOLOGY

#### 4.1 Introduction

The ultimate objective for this study was to design and develop a strategic pedagogy which lecturers in teacher training colleges (TTCs) in Malawi could use for improving primary school teachers' CA implementation. This objective was arrived at after noting deficiencies in the way teachers were implementing CA in the schools after they left college. The main problem that led to the study was teachers' ineffectiveness when implementing CA in schools despite being formerly oriented or trained. "Ineffective" was considered to mean teachers' inability to implement CA as planned and intended by the curriculum planners. Although this problem is a regional problem (See chapter three), research on how CA implementation could be improved is scanty or not available. Considering the importance that is attached to CA in improving learning, and the emphasis placed on it in the PCAR, the recent reviewed secondary school curriculum, and in the MoEST circulars (Ministry of Education Science and Technology Press Statement 2016), a solution to the complex CA implementation problem had to be sought in order to achieve its intended goals.

In order to achieve the ultimate objective, there was a need to firstly understand how lecturers in teacher education programmes prepared pre-service primary school teachers for CA implementation. It was also considered vital to explore how teacher preparation for CA implementation could be improved. A number of options were therefore, considered on how best the problem of CA implementation could be improved. It was then decided that, for this study to achieve its aim and purpose, design research would be an appropriate research design. The design, in this case, utilised a mixed method research approach. A mixed methods approach collects and analyses both qualitative and quantitative data in order to have a deeper understanding of the problem being investigated.

By using design research, the researcher, in collaboration with the stakeholders and practitioners, managed to design, develop and formatively evaluate a strategic pedagogy that lecturers in the TTCs could use when training school teachers who could effectively implement CA in Malawi's primary schools. Through these processes, the study sought to identify the related design principles and develop the features that could be needed for the design and development of CA implementation pedagogy in the primary teacher education programmes.

While the study examined the factors that hindered successful teacher preparation for CA implementation, it also explored how the problem could be solved. Since the study tried to

provide solutions to the problem in its natural context, it can be said that the study was pragmatic in nature. Du Plooy-Cilliers et al. (2014, p. 78) describe pragmatic research as “research which aims to find solutions to specific problems by utilising both qualitative and quantitative methods”.

The chapter, therefore starts with an elaboration of design research as the research design which was used in this study and its justification (section 4.2). It then describes the research paradigm in section 4.3, followed by an overview of the research methods shown in section 4.4. It also spells out the research procedures in section 4.5, which were actually implemented. This is later followed by section 4.6 which provides data analysis for different types of data collected. This section also includes the quality criteria followed by this design research. The methodological norms which addressed issues of validity and reliability of the instruments used are also presented in section 4.7. Ethical considerations have been presented in section 4.8, and this is followed by section 4.9 which affords us the conclusion of the chapter.

## **4.2 Design research as the research design**

This section describes the research design that was used in this study, and explains why this research design was adopted over the others.

The review of studies on teachers’ experiences with CA implementation in the SADC region which includes Malawi suggests that teachers in general are implementing CA just for the sake of compliance due to several CA implementation challenges they face (see chapter 3). These include lack of technical knowledge on how to develop good assessment items, and how to actually implement CA during the teaching and learning processes. In addition, lack of experience of the trainers for CA implementation; inadequate understanding of the terminology used in CA implementation; large classes and increased workloads have also been cited as reasons for poor CA implementation in the primary schools.

Due to these challenges, there has been significant variations from what the curriculum documents specify on how CA implementation should be executed and the actual implementation processes of the new primary curriculum in general and CA in particular by the teachers in the schools. This scenario creates a dilemma because the Malawi MoEST puts a great emphasis on CA, yet the teachers are not implementing it as expected.

Considering that teaching is a learned profession, the argument for the present study was that, improvement in the pedagogies that TTC lecturers’ use, when preparing primary school teachers for CA implementation, could enhance the school teachers’ knowledge, skills, values, understanding and application of CA implementation in their classrooms.

As a way of seeking solutions to the complex CA implementation problem, the present study proposed to investigate and understand how primary school teachers were actually prepared in the TTCs for CA implementation later in the primary schools. In addition, the study sought to design and develop a teaching strategy which the lecturers in the TTCs could use as they prepared the primary school teachers for CA implementation in the schools. An improvement in the pedagogies, that TTC lecturers in Malawi used, was considered to be vital as it would, firstly, impact positively on the pre-service primary school teachers' classroom practices of CA implementation. Secondly, targeting TTCs with this intervention, would also help the education system as primary teacher education programmes are charged with the responsibility of preparing pre-service primary school teachers with the knowledge, skills and dispositions that would enable them to implement the PCAR curriculum in general and CA in particular. In addition, a focus on primary teacher education preparation for PCAR, and CA implementation seemed to be reasonable as the initial primary teacher education (IPTE) curriculum was aligned with the PCAR curriculum. The expectation was that a thorough preparation of pre-service primary school teachers in the TTCs on how to implement CA would bring about teachers who were empowered to deliver the expected goals of PCAR.

To achieve the aim of this study, design research was therefore considered to be an appropriate research design. A number of scholars have defined and successfully applied design research in different studies in education (see Anderson & Shattuck, 2012; Easterday, Lewis & Gerber, 2014; McKinney & Rees, 2013; Nieveen & Folmer, 2013; Plomp, 2013; an den Akker, Gravemeijer, McKenney, & Nieveen, 2006). For example, Plomp (2013) identifies two definitions of design research based on purposes of the studies which include development and validation studies. When the purpose of design research is to develop "research-based solutions for complex problems in educational practice", design research is defined as "the systematic analysis, design and evaluation of educational interventions with the dual aim of generating research-based solutions for complex problems in educational practice, and advancing knowledge about the characteristics of these interventions and the processes of designing and developing them" (p.16). However, if the purpose of design research is to validate a theory, design research is defined as "the study of educational interventions (such as learning processes, learning environments and the like) with the purpose to develop or validate theories about such processes, and how these can be designed" (p.16). Earlier on, Wang and Hannafin (2005, p.6) characterised design-based research as "a systematic but flexible methodology aimed to improve educational practices through iterative analysis, design, development, and implementation, based on collaboration among researchers and practitioners in real-world settings, and leading to design principles or theories". Looking at the enormity of CA implementation problem prevalent not only in

Malawi but in the SADC region as reflected by the reviewed literature (see chapter 3), it was considered appropriate that a pedagogy, which lecturers in the TTC can use as they prepare pre-service teachers for CA implementation in order for them to gain knowledge and skills pertinent to CA implementation, should be designed and developed collaboratively with the relevant stakeholders. The idea was to arrive at the solution to the problem collaboratively with the research participants in the design, development and implementation of the intervention. This could be possible if design research, which utilises collaboration in an effort to design and develop a solution to existing problems was adopted.

The rationale for a collaborative approach to this problem was to ensure that the pedagogy to be designed and developed should be home grown and owned by both the TTC lecturers and all the relevant stakeholders. Accordingly, stakeholders such as TTC lecturers, subject matter experts (SMEs) from MIE who are also curriculum specialists; staff from the University of Malawi (UNIMA) and staff from the Malawi National Examinations Board (MANEB) were involved in this study to come up with solutions to the CA implementation problem. It should be reminded that the roles of these stakeholders in education in Malawi have been fully explained in chapter two.

Essentially, the collaborative nature of this study required these stakeholders in order to generate solutions to the CA implementation problem. It is this collaborative characteristic that propelled the choice of design research as the research design in order to achieve the aim of the study. Plomp (2009, p. 12) states that the function of design research is to “design and/or develop an intervention (such as programmes, teaching and learning strategies and materials, products and systems) with the aim to solve a complex educational problem, and to advance knowledge about the characteristics of these interventions and processes to design and develop them”. In this context, CA implementation was the complex problem because no solution had been made available by any study not only in Malawi but also in the SADC region (see chapter 3). Thus, design research, which is cyclical in nature, followed the analysis, design, development, implementation and evaluation (ADDIE) model (see Molenda, 2003).

The analysis phase was aimed at determining knowledge, attitudes and practices of CA implementation; how lecturers in the TTCs actually prepared the pre-service teachers for CA implementation, and how these strategies could be improved. This part focussed on the research sub-questions 1, 2, and 3 which was implemented through a baseline survey. The findings of the baseline survey, and literature reviews on “effective teaching strategies”, and “teaching methods/models” led to the designing, development, implementation as well as evaluation and revision of the prototypes of the strategic pedagogy that were iterated until a satisfying balance between the ideals (‘the intended’) and realisation had been achieved

(Plomp, 2009). These have been presented in Chapter 6 as we progress. A discussion on what “design research” is all about follows. This discussion will enable readers who are new to design research to understand its philosophical and theoretical underpinnings.

A number of scholars and studies such as the Design Based Research Collective (2003) and Bannan-Ritland (2003) have documented the characteristics of design-based research, which is also known as design experiments (Brown, 1992; Collins, 1992). Other variants associated with design research include, design-based research (The Design-Based Research Collective (2003); design research (Cobb, 2001; Edelson, 2002; Collins, Joseph, & Bielaczyc, 2004); development research (van der Van den Akker, 1999); developmental research (Richey & Nelson, 1996); formative research (Walker, 1992); and action research (Stringer, 1999). On the other hand, Wang and Hannafin (2004, p. 2) while acknowledging the fact that design research has many descriptions and variants argue that while: “some have slightly different foci; the intrinsic ideas are consistent”.

These variants aside, McKenney and Reeves (2012; 2004) describe design research as having five basic characteristics. Firstly, it has pragmatic research goals as the principles of theory are supposed to inform practice.

Secondly, it utilises grounded research methodology since this research is usually conducted in a limited number of settings. Thus, the research and design processes need to be grounded as the research is being conducted in real world settings with social interactions and not in socially isolated environments.

Thirdly, design-based research involves research processes that are interactive, iterative, and flexible implying that they follow iterative cycles of design, enactment/implementation, analysis, and re-design in order to formulate a theory based on the accumulated data collected in each design iteration, and through the experiences gathered by the designer. This requires the researcher to balance the role of a researcher as “a designer” and “researcher”.

Fourthly, design research utilises integrative research methods as researchers use multiple methods in order to maximise the credibility and adaptability of their methods. This way, the researcher can use surveys, expert reviews, evaluation, the case studies, interview and inquiry.

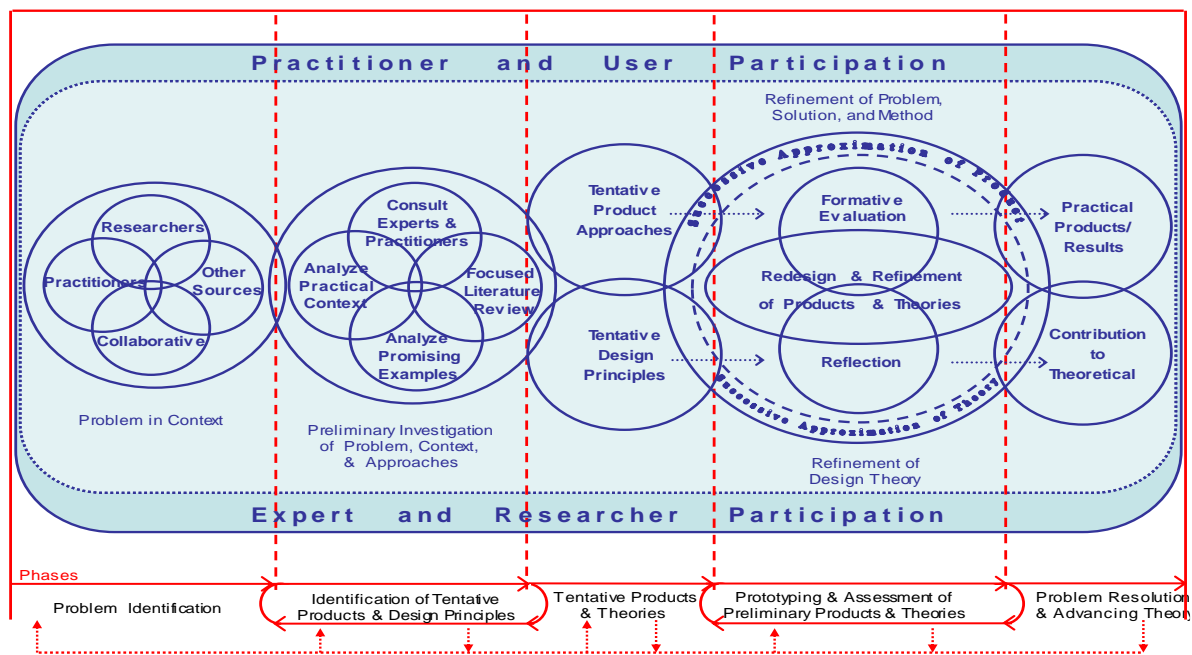
In addition to above characteristics, Van den Van den Akker, (1999); Edelson, (2002) and Cobb et al., (2003) consider retrospective analysis and formative evaluation as other methods of design-based research. In addition, design research is contextual. The results, research processes and any change from the original plan of such a research need to be documented

well within the findings to enable other researchers or designers to trace how an innovation or a combination of innovations emerged by examining the contexts or conditions that led to the different effects.

Conversely, Shavelson, Phillips, Towne and Feur (2003, p. 26) characterised design studies as being:

- “Iterative, as they involve tightly linked design-analysis-redesign.
- Process focused, as they seek to trace both an individual’s (or group’s or school system’s learning by understanding successive patterns in the reasoning and thinking displayed and the impact of instructional artefacts on that reasoning and learning
- Interventionistic, as in the testing of theory and instructional artefacts by designing and modifying real-world settings.
- Collaborative, as they depend on the knowledge and co-work of practitioners
- Multi-levelled, as they link classroom practices to events or structures in the school, district, and community
- Utility oriented, as their intention is on improving the effectiveness of instructional tools to support learning
- Theory driven, as they aim at testing and advancing theory through the design-analysis-redesign of instructional activities and artefacts”.

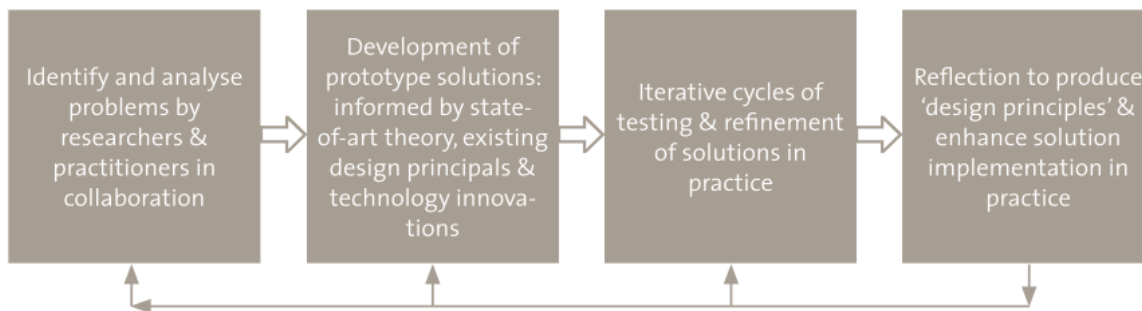
The process of design research can be depicted in different ways (see Figure 4.1 for Wademan’ Generic Design Research Model, Figure 4.2 for Reeve’s Refinement of Problems, Solutions, Methods, and Design Principles and Figure 4.3.for Display of the CASCADE-SEA Study).



**Figure 4.1: Generic Design Research Model (Wademan, 2005 in Plomp & Nieveen, 2007, p.14)**

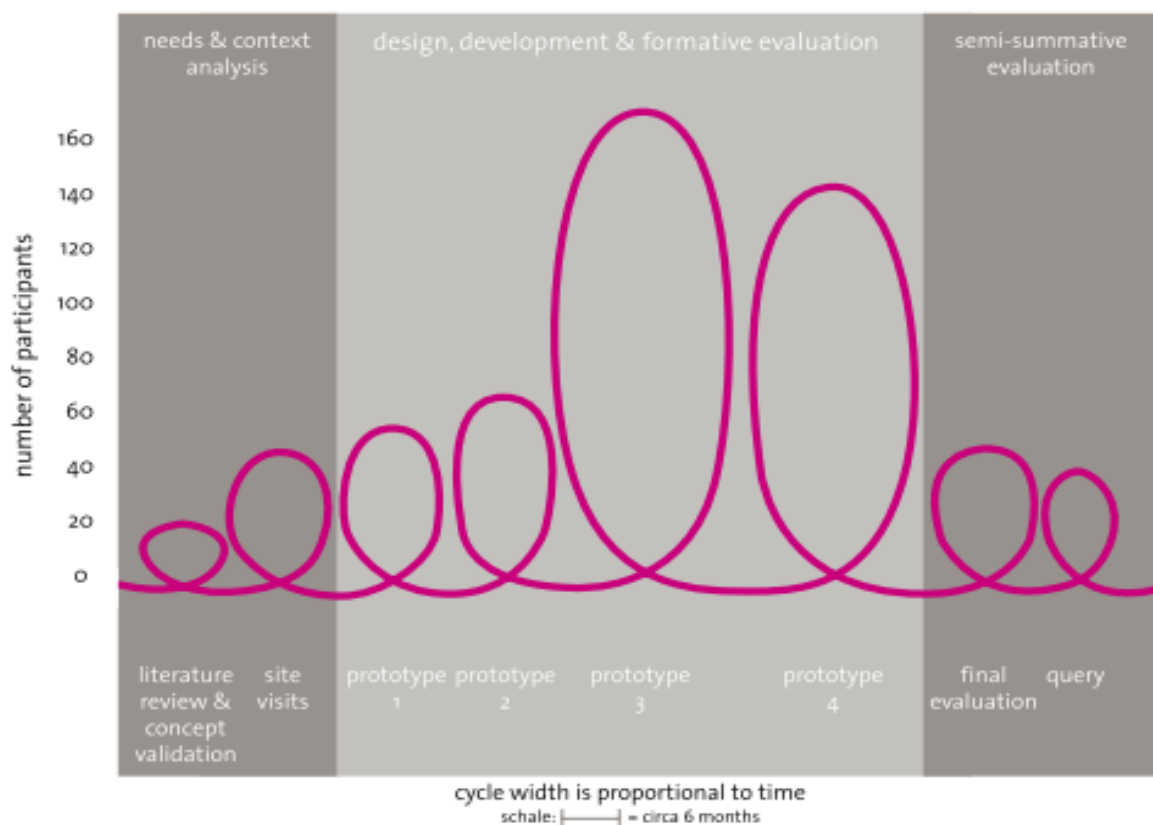
The Generic Design Research Model clearly indicates the phases that design research goes through, such as problem identification; identification of tentative products and design principles; development of tentative products and theories; prototyping and assessment of the preliminary products and theories and the provision of problem resolution and theory advancement. Each phase is characterised by different activities involving different stakeholders. It can also be noted that the processes are iterative in nature.

Reeves (2006) approach to design research highlights the kinds of activities that are carried out at each phase along the continuum from problem identification, development of prototype solutions, iterative cycles of formative evaluation and reflection after the summative evaluation.



**Figure 4.2: Refinement of problems, solutions, methods, and design principles (In Plomp, 2009, p.14)**

McKenney’s (2001) model, while retaining the phases in design research, presents a visualisation of the cyclic and iterative process of design research.



**Figure 4.3: Display of the CASCADE-SEA study in (Plomp, 2009, p.14)**

Based on the characteristics of design research, the current study followed the design phases and sequence as shown in Figure 4.4.



As shown in the Figure 4.4, three design phases were followed by this study, and were guided by the main research question, *“What are the characteristics of a strategic pedagogy for pre-service teacher education for effective continuous assessment implementation in the primary schools in Malawi?”*

The design phases for the study were baseline survey, design, development and formative evaluation of the prototypes, implementation and assessment/evaluation. The baseline survey was aimed at responding to the first three sub-questions:

- 1** What knowledge, attitudes and practices of continuous assessment do the TTC lecturers possess that influence the way they prepare pre-service primary school teachers for CA implementation? This sub-question was aimed at identifying knowledge, attitudes and practices that teacher educators possessed, and the pedagogies lecturers used for preparing pre-service primary school teachers for CA implementation.
- 2** How do the current content and pedagogical strategies deployed in pre-service primary teacher education programmes support CA implementation? This evaluated the strategies to identify, in the first place, the strategies the lecturers in TTCs actually used when teaching, and secondly the gaps in the strategies used by these lecturers in teacher preparation for CA implementation.
- 3** How can the instructional strategies that lecturers use when preparing pre-service teachers for CA be improved? As a follow up to sub-question 2, this sub-question was aimed at beginning to identify the design of a strategic pedagogy for pre-service primary teacher education for effective CA implementation. The aim was to identify a pedagogy that TTC lecturers could use as they prepared pre-service primary school teachers for CA implementation.

Other activities that were performed in this phase were literature reviews on CA implementation to identify the problems related to its successful implementation. The findings from the baseline survey contributed to the initial design principles for the intervention and the local instruction theory. During this phase, the quality criteria of relevance and consistency were applied.

The design, development and formative evaluation of the strategic pedagogy was later carried out in the second phase. This phase involved literature reviews on teaching strategies and models of teaching. In addition, a daylong seminar was organised with the research participants identified for the intervention phase and the SMEs. The aim of the seminar was to get the views of those that were invited to the workshops regarding what a primary school

teacher should know and be able to do when implementing CA. It was equally aimed at identifying the foreseeable challenges that the teachers face, and how to overcome them. Bringing together the SMEs and the research participants was aimed at sharing ideas, and to have a common understanding on CA implementation. The commonalities in the presentations were utilised in the design and development of prototype 1 of the strategic pedagogy. This phase addressed sub-question 4.

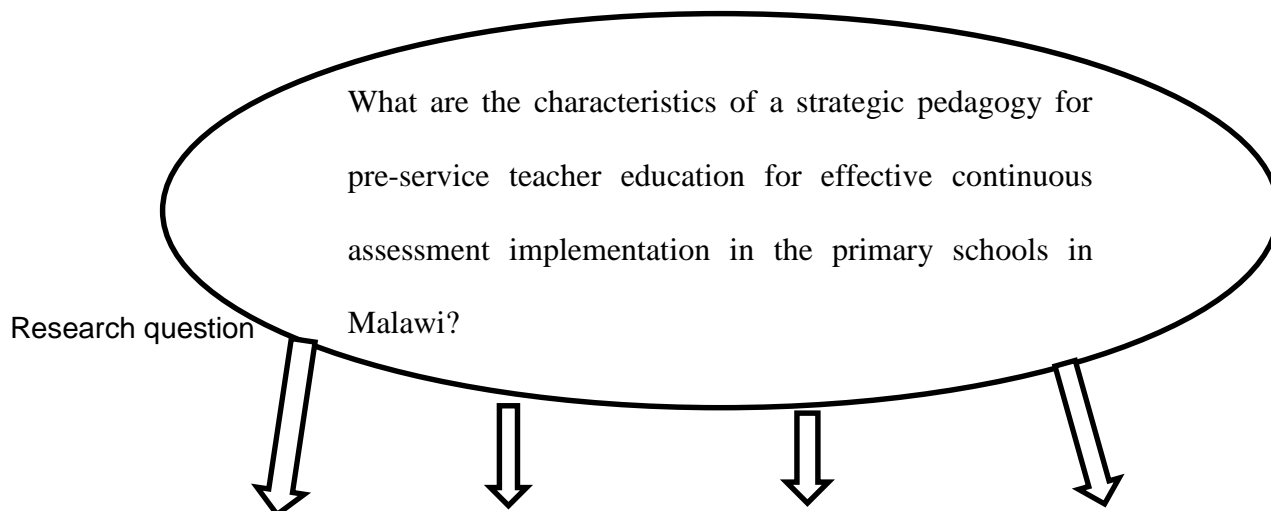
- 4 How does the use of the strategic pedagogy impact on lecturers' instructional practices and pre-service teachers' CA implementation in the schools? This sub-question was aimed at evaluating the strategic pedagogy using the quality criteria for design research. The quality criteria have been explained in the coming sections of this chapter.

The quality criteria of relevance and consistency were also addressed in this phase.

A workshop with six lecturers who were to implement the strategic pedagogy was conducted after the daylong seminar. Three workshops were carried out orienting the lecturers on the phases of the strategic pedagogy. After the workshops, the lecturers were requested to identify a topic related to CA and teach it in the presence of other members of staff as critical peers. Due to other college commitments, only two lecturers prepared and taught.

After liaising with the principal of the college, two classes were arranged where the lecturers were to implement the strategic pedagogy. In this phase, the quality criteria of practicality and effectiveness were equally addressed.

The last phase was the assessment /evaluation of the strategic pedagogy. This was done by getting feedback from the lecturers about their experiences during the implementation of the pedagogy. Evaluations were also later sought from the SMEs. The quality criteria of practicality and effectiveness were addressed in this phase. However, it should be noted that the desirable or ideal way of determining the practicality and effectiveness of the strategic pedagogy was to observe the pre-service primary school teachers, who benefited from the intervention, actually teaching in the primary school classrooms to determine their ability to integrate teaching, learning and assessment in addition to the feedback from the lecturers and the SMEs. However, due to some logistical problems, the assessment of the strategic pedagogy ended with the feedback from the lecturers who taught aspects of CA using the strategic pedagogy and the SMEs. This observation has been recommended for future research in chapter 8. The assessment phase contributed to the development of the design principles for the strategic pedagogy (see Chapter 7).



PHASES	BASELINE SURVEY	DESIGN AND DEVELOPMENT	IMPLEMENTATION	ASSESSMENT
Activities	Literature review Data collection Questionnaire -Observation -Debriefing -Interviews ↓ Design principles Local instruction Theory	Daylong Seminar Literature review SME and supervisor inputs ↓ Design and development of Prototypes one of the strategic pedagogy	Workshop (6 lecturers) Try out 1 (critical peers) Try out 2 (Lecture room setting) ↓ Validation	Participants' reflection Feedback from SMEs ↓ Design Principles of the Strategic Pedagogy
Output	1, 2, & 3	4	4	4
Sub-question	1, 2, & 3	4	4	4
Quality Criteria	Relevance Consistency	Relevance Consistency	Practicality Effectiveness	Practicality Effectiveness

Figure 4.4: The Strategic Pedagogic Intervention (SPI) Design Phases

### 4.3 Research paradigm

Through my experience as a secondary school teacher and teacher educator, I have embraced the idea that education should change people's behaviour. In other words, the theory learned should impact on practice although in some instances it becomes difficult for theory to be visibly seen to impact on practice. However long it may take for theory to be put into practice, the central idea is that theory should change the way people conduct themselves. This kind of thinking made me feel uncomfortable when I heard my students in a B.Ed (Primary) programme that prior to joining the college for upgrading, they were not implementing CA in the primary schools although they were taught about it in the TTCs. This observation collaborated with the existing evaluation studies on CA implementation (Matiti, 2009; Chiunda & Kuopisa 2011; Chulu, 2010). This made me become curious regarding the role of teacher education in helping pre-service teachers to execute their duties in CA implementation. The question I grappled with was, why then should teacher educators expend their time training students in strategies that may not be put into practice? The answer to this question may be found in an approach to teaching that weaves theory and practice as the means of knowing. This then can best be understood and achieved through use of Pragmatism as the research paradigm for the current study.

Essentially, pragmatism “debunks concepts such as truth and reality” (Tashakkori & Teddlie, 2003, p. 713), and focuses on what works as the truth regarding the research questions under investigation. To achieve their goal, pragmatists use multiple methods in research while acknowledging that the values of the researcher plays a large role in how the results are interpreted (Tashakkori & Teddle, 2003).

The basic question that pragmatists ponder is “what works?” (Practical), and this tallies well with Plomp's (2009, p. 22) notion that an innovative intervention, in design research, often situated in a pragmatic paradigm, should meet a need “in a complex, practical situation for which no ready-made solutions or guidelines are available”.

While holding this worldview as a pragmatist, I tend to focus on the outcome of the current study which is a strategic pedagogic intervention for improving the pedagogies that lecturers in TTCs should use for CA implementation. The study sought to offer solutions to complex, real-world problem(s) for which no ready-made solutions or guidelines were available, using multiple methods of data collection such as quantitative and qualitative methods (mixed methods), and took into consideration the importance of conducting research that best addresses the research problem and has practical implications (Mackenzie & Knipe, 2006).

My inclination towards pragmatism has shaped my belief that educational research has to assist in improving practice and /or actions/behaviours. The use of design research can assist in improving practice because the solution to a complex problem is applied and tried out in a local context collaboratively with the practitioners (Van den Van den Akker et al., 2006). What design research tries to accomplish, in this context, is to provide a solution to a complex problem, in its local context, by involving people who are directly affected by the problem but are interested in finding a solution to the problem. The involvement of grassroots practitioners may enhance practice to a great extent. This is exactly what design research accomplishes.

As a way of solving the complex CA implementation problem, the collaborative and iterative nature of the research, and the formative evaluations at each cycle or iteration eventually led to design principles which would be useful in other settings hence putting theory into practice. The theoretical underpinnings of the study were informed by Heritage's (2010) conception of formative assessment: how to make it happen in the classroom.

#### **4.4 Overview of research methods**

Since design research is iterative in nature, and involves different phases with different research participants, the section which follows provides an overview of the research methods for the study. A detailed description of the research methods used for each phase has been presented in the research findings chapters.

##### **4.4.1 Research site, sample and sampling procedures**

In this section, the research site, sample and the sampling procedures used for the study to identify the research site and the research participants are described. In the first place, the sampling procedure used to get the research site is presented and is followed by a description of the sampling procedure used to identify the sample.

###### **4.4.1.1 Research site**

At the time data for the study were being collected, there were six public TTCs and a number of private ones. These public TTCs comprised the study population since this is where the information for the study was gathered (Wiid & Diggins, 2013). Initially, two TTCs, one in the South West Education Division (SWED) and another in the South East Education Division (SEED) in Malawi were conveniently sampled to participate in the study due to their close proximity with the researcher and accessibility. However, in consultation with the supervisors of this study, a decision was made to have only one TTC as the research site to discharge all research process involved with design research with ease while taking into consideration the time constraints to complete the study. The choice of public TTCs as opposed to private ones

was deliberately made since it was believed that these would be in the forefront of implementing government policy as contained in PCAR. Although the target population were all lecturers in public TTCs in Malawi and their respective pre-service teachers, not all the six TTCs participated in the study.

#### **4.4.1.2 Sample**

In order to get one TTC as the research site, a non-probability sampling procedure was used. One example of a non-probability sampling approach is convenience sampling. In this study a convenience sampling procedure was used to identify the research site. Convenience sampling has its limitations (Cohen et al., 2012). While acknowledging the weaknesses with this sampling procedure, it was felt that even if a random sample or other sampling procedure was used, the findings would not be different considering the similarity of the characteristics of the lecturers and pre-service teachers in the TTCs as deployment of both lecturers and students is done by the Department of Teacher Education and Development (DTED), and is not based on merit, achievement or performance. However, it was also acknowledged that institutional culture of each TTC coupled with differences in leadership styles of the institutions might bring in differences in the findings. As the purpose of the study which was first to understand the strategies that TTC lecturers used when preparing pre-service teachers for CA implementation in the primary schools and to determine how the strategies could be improved through designing and developing a strategic pedagogy to be used by the lecturers in the TTCs, a single research site conveniently located was seen as feasible. In addition, as the findings of the study were not to be generalised to the entire TTCs but related to the sample in question, this sample procedure satisfied the purpose of the study. The aim was to try out an intervention that responded to the main research question and sub-questions. Using this sampling procedure, a TTC in South East Education Division (SEED) was chosen due to its accessibility and convenience (Ross, 2005).

#### **4.4.1.3 Sampling procedures**

Taking into the considerations above, a convenience sampling procedure was used to identify one TTC as the research site. The TTC where the study was conducted is located in the South East Education Division (SEED). The TTC is a relatively new institution as it was opened in 2010. The TTC had a capacity of 600 conventional students and about the same number of students studying through the open and distance learning delivery mode (ODEL). As stated earlier on (see chapter 2) the MoEST through DTED is responsible for selecting students and lecturers to these TTCs. As a government institution, all facilities and resources are provided by the MoEST. During the study period, pre-service teachers were being trained without paying any tuition fees.

#### **4.4.2 Selection of participants for each phase**

As indicated earlier (see 4.2), the study adopted educational design-based research. Since design research is conducted in phases with the same or different participants, different sampling procedures were used to identify the participants for a particular phase. Pascoe (2014) outlines the following considerations when identifying a sample. These include: budget, time, resources, purpose and error allowance (Pascoe, 2014, p. 144-145). I used a non-probability purposive sampling procedure to identify the research participants for the study. A description of the sample for each phase follows.

##### **4.4.2.1 *Research participants for the baseline survey***

As indicated earlier (see 4.2), the study was carried out in three phases. During the baseline survey, two groups of research participants were involved. These were TTC lecturers and Subject Matter Experts (SMEs). Different TTC lecturers participated in the study at different levels using different sampling procedures. For example, a census survey was used as the sampling procedure for the baseline survey. This meant that all the TTC lecturers and the pre-service teachers at the research site were the targeted population. However, out of fifty eight, only fifty one TTCs lecturers (thirty-four males and seventeen females) representing 88% of the lecturers completed and returned the questionnaires. All the research participants were well qualified for their job as lecturers as they all, with the exception of one, had a B.Ed. The majority of the lecturers (41) were once primary school teachers whose experience ranged from less than one year (3) to twenty years (4). All participants had some experience with the MANEB activities. For example nineteen (19) participants indicated that they had experience with MANEB as invigilators, and thirteen (13) participants indicated that they were involved with scoring national examinations. In addition, forty-eight (48) participants indicated that they had attended continuous professional development (CPD) on CA. Only three (3) lecturers had not attended any CPD on CA.

##### **4.4.2.2 *Research participants for the lecturer room observations***

During the lecturer room observations, all the lecturers who responded to the questionnaire were targeted for lecture room observations. They were requested verbally for permission to be observed during teaching. They were not told what exactly the researcher was looking for in relation to the study. The lecturers were not told what to include in their lecture. The aim was to find out what a typical lecture looked like, and also examine the strategies and procedures that the lecturers used that may help the pre-service teachers to be able to implement CA in the schools as stipulated by PCAR. Basically, the researcher was interested in how the lecturers incorporated aspects of CA (see Chapter 3) in their lectures and also to

determine the teaching strategies they used that could possibly enhance knowledge and skills transfer for CA as they prepared the pre-service primary school teachers.

A total of twenty-two (22) lecturers (16 males and 6 females) voluntarily agreed to be observed during teaching. The lecture room observations were conducted in two consecutive weeks, and each of them was observed once teaching different learning areas as shown in table 4.1.

**Table 4.1**

**Participants during lecturer room observation**

Learning Area Total	Gender		
	Male	Female	
Agriculture	2		2
Social and Expressive Studies	2		2
Foundation Studies	4		4
Numeracy and Mathematics	2	1	3
English	2		2
Chichewa		1	1
Science and Technology	2		2
Religious Studies	1		1
Life Skills	2		2
Social and Expressive Arts	1		1
Special needs Education	1	1	2
<b>Total</b>	<b>19</b>	<b>3</b>	<b>22</b>



#### **4.4.2.3      *Participants for the intervention phase***

After the lecture room observations, six participants comprising four males and two females were purposively sampled to participate in the intervention phase of the study. Purposive sampling of the research participants for the intervention was done to ensure that the participants had the necessary knowledge and experience relevant for the study (Bless, Higson-Smith & Kagee, 2006; Creswell, 2007) or exhibited favourable characteristics necessary for the study. In this study, the choice of the six participants was guided by the subjects they taught as well as their level of enthusiasm to participate in the study as demonstrated by the way they taught during lecture room observation.

Besides their enthusiasm to participate in the intervention, the lecturers were supposed to possess a minimum qualification of a B. Ed, and five years' experience as a primary school teacher, as well as three years teaching at a TTC in Foundation Studies. Another criteria was that the lecturers were expected to have some experience with the Malawi National Examination Boards (MANEB) activities. Familiarity with MANEB duties was important because it would indicate that the participants had some pedagogical content knowledge and experience in activities related to assessment activities which were crucial for this study. Any person who participates in any MANEB related activities undergoes some kind of training in item development hence the aim was to have participants who had the requisite knowledge domains as stipulated in the conceptual framework.

However, when a decision was made to conduct the study at one research site, it was not feasible to have all the six participants who could satisfy all the requirements from one department as earlier indicated. Hence, the six participants were representatives from the following learning areas: Educational Foundations Studies, Mathematics and Numeracy, Social and Expressive Arts, and Language and Literacy. They all had a Bachelor of Education (Primary) degree and had previously taught as primary school teachers before becoming teacher educators as presented in Table 4.1.

#### **4.4.2.4      *Research participants from the pre-service teachers***

Apart from the participant lecturers; 219 pre-service teachers representing 37% completed and returned the questionnaires. Out of the 219 pre-service teachers, 125 (57%) were males and 94 (43%) were females. However, data for the pre-service teachers were not analysed as it was later discovered that at the time of administering the pre-service teachers questionnaire, the pre-service teachers had not yet covered the topic on assessment as it appears in the third term of the curriculum hence it was felt that their responses to the questionnaire could not contribute much to the study.

In addition, after the intervention, five pre-service teachers were to be identified by their lecturers and were to be closely followed up in the schools they were deployed for teaching practice for classroom observation purposes. The aim was to determine the actual effectiveness of the strategic pedagogy on CA implementation. However, the study did not determine the actual effectiveness of the strategic pedagogy due to time limitations.

#### **4.4.2.5 Subject matter experts as research participants**

In carrying out design research, it was important to involve subject matter experts (SMEs) to contribute ideas to the design and development of the strategic pedagogy as well as help evaluate formatively the prototypes of the strategic pedagogy. The SMEs from the University of Malawi (1), MANEB (1), curriculum experts from Malawi Institute of Education (MIE) (2) and subject methods advisors from the MoEST (4) were approached in writing, and were involved during the baseline survey at different phases of the prototypic stages for appraising, monitoring and evaluation of the prototypes.

#### **4.4.3 Instruments**

This section describes the instruments used for the study and how they were developed. To address the main research question and the sub questions 1 and 2, on knowledge, attitude and practice of CA (KAPCA) questionnaire, classroom observation protocol, and a seminar and interview protocol were used. Following is a description of the questionnaire.

##### **4.4.3.1 Knowledge attitude and practice of continuous assessment questionnaire**

In order to respond to the first research sub-question, a knowledge, attitude and practice of CA (KAPCA) questionnaire was developed. The questionnaire had three sections A, B, and C.

Section A, sought research participants' biographic details in terms of gender, age, academic qualifications, experience as a primary school teacher; experience as a lecturer in a TTC, and experience with MANEB activities. There was one item that sought research participants' involvement in continuous professional development (CPD) in CA. (Appendix A)

Section B, of the questionnaire, was a four-point Likert-type attitudinal scale on various aspects of CA implementation. The participants were requested to indicate their level of agreement to forty-five (45) items as follows: Strongly Agree (SA) which had a numerical value of 1; Agree (A), numerical value of 2; Disagree (D) which had a value of 3 and Strongly Disagree (SD) with a numerical value of 4. (Appendix A). Some items in section B of the questionnaire were either adopted or adapted from a questionnaire that was initially used by James and Pedder (2006) which was also adapted by Shaw et al., (2013) in Assessment for

Learning in International Contexts (ALIC). Permission to use the instrument was obtained in writing from Mary James, and Davis Pedder, (see appendix B for the email communication). Other items were developed by the researcher. Table 4.2 indicates the items that were either adopted, adapted or developed by the researcher. A total of 14 items were adopted (the statement part excluding the response options); eleven (11) items were adapted and twenty (20) items were developed by the researcher.

**Table 4.2: Questionnaire items development (adopted, adapted or developed)**

Item	Adopted	Adapted	Developed
1		✓	
2-13			
14-17			✓
18-19		✓	
20			✓
21-23		✓	
24	✓		
25-27		✓	
28	✓		
29		✓	
30-31			✓
32-35		✓	
36	✓		
37-40		✓	
41-45	✓		
Total	14	11	✓ 20

An example of items adapted by the researcher from James and Pedder (2006):

**Original:** The main thing I look for in my assessments is whether my students know, understand or can-do key sections of the curriculum (Item A3).

**Adapted:** My assessments are motivated by whether my students know, understand or can-do key sections of the curriculum. (Item B15)

**Original:** The feedback that my students get helps them improve (Item A4).

**Adapted:** I give feedback that helps students improve (Item B16).

It should be noted that the response patterns for the Likert type items were developed by the researcher. The design and the response options were also different from the ones developed by James and Pedder as can be seen in the illustrative example:

**Table 4.3: Structure of the questionnaire from James and Peddler (2006)**

Scale X Your assessment practices  (About You)				Assessment practices	Scale Y How important are assessment practices for creating: opportunities for students to learn?  (About your values)			
Never true	Rarely true	Often true	Mostly true		Not at all important	Of limited importance	Important	Crucial
				The subject curriculum I have to teach is a greater influence on what I will do in my next lesson than how well my students did in the last lesson.				

The items in section C which comprised 15 open-ended items and one Likert-type item were developed by the researcher. Participants were requested to explain their responses so as to get some in-depth understanding of their responses. The one Likert type item in this section sought to determine the extent to which the participants allowed the pre-service primary school teachers to practice aspects of CA implementation during either micro-teaching or peer teaching.

The questionnaire items in general sought the participants' knowledge, attitude and practice of CA (Table 4.4). Knowledge items depicted what the participants knew about aspects of CA. For example, item B1 "*Assessment provides useful evidence for planning the next lesson,*" and item B2, "*The purpose of applying continuous assessment is to monitor learning progress*" presumes that the participants have knowledge regarding the importance of CA, and the rationale for administering it.

Items that showed either the feelings or aspirations of the participants were classified as measuring the participants' attitude towards aspects of CA implementation. Item B4 is an example falling under the attitude domain. "*Implementing continuous assessment takes away important teaching time.*"

Items that sought what participants did when implementing aspects of CA were classified as practice level items. Examples of items under this domain are B16 "*I give feedback that helps students to improve,*" and B19, "*I encourage students to act as instructional resources for one another.*" It should be stated that this classification was not mutually exclusive as there was a possibility that researchers might differ in how the items were classified.

**Table 4.4: Classification of the questionnaire items**

<b>Domains</b>			
	<b>Knowledge</b>	<b>Attitude</b>	<b>Practice</b>
<b>Items</b>	B1, B2, B3, B7, B8, B9, B10, B12, B13, B43, B45, C1, C2, C3, C4, C15	B4, B5, B11, B26, B27, B36, C6, C7, C10, C11, C14	B14, B15, B16, B17, B18, B19, B20, B21, B22, B23, B24, B25, B28, B29, B30, B31, B32, B33, B34, B35, B37, B38, B39, B40, B41, B42, B44, C5, C8, C9, C12, C13, C16

#### **4.4.3.2      *Lecture room observation***

In addition to the questionnaire, a lecture room observation instrument which was in the form of an action checklist was developed by the researcher for use during the lecture room observation phase. The action checklist had twenty-one (21) items in two categories, A and B. Items in section A focused on how the planning for the lectures were carried out whereas the items in Section B, focused on how the lessons were actually presented specifically on how they integrated aspects of CA in the lecture (Items 6, 7,10,12,15, 16, and 17; general teaching methods such as items 8,9,19, 20, and 21) are examples. The last part of the observation action checklist was for general comments where the researcher commented on how the lecture progressed in relation to CA (Appendix).

#### **4.4.3.3      *Debriefing session***

During the debriefing session, I reported back what I observed during the lecture room observation and asked them if what I observed was a true reflection of their lecturing practices. The debriefing then probed why they taught the way they did. I also asked what they would have done well if they had a choice. Here, I particularly focused on giving an opportunity to the pre-service teachers to practice what they learned. This was the focus of item 18 on the action checklist. During the debriefing, I also asked the participants to share with me their experiences with CA implementation at the TTC, benefits, challenges, a reflection on their teaching strategy and the way forward.

#### **4.4.3.4      *Daylong seminar***

A daylong seminar with the six research participants who were to participate in the intervention phase and SMEs was organised. Specialists from various education stakeholders such as curriculum specialists, higher education experts, examination officers, lecturers, and primary school education methods advisors were to prepare and present their views on the topic “What should a primary school teacher be able to know and do when implementing continuous assessment in the classroom? What are the challenges that the teachers face in implementing CA and how can they overcome them?”

The purpose of bringing together the SMEs on a daylong seminar was to find out if all the stakeholders had either a common or a different perspective regarding what a teacher should know and do when implementing CA. The views expressed in this seminar contributed to the design of prototype one of the intervention (see Chapter 6). The researcher provided a topic for the workshop presenters to guide them with their preparation. During this seminar, only three SMEs were present. Interviews were conducted later with the SMEs who were absent from this seminar in order to incorporate their views in the study.

#### **4.4.3.5 Interview with subject matter experts**

The researcher carried out interviews with the SMEs who were not present at the daylong seminar. The same question that the SMEs presented at the seminar was used as an interview question with the SMEs. A summary of instruments that were used at each phase aligned with a specific research question is presented in Table 4.3.

#### **4.4.4 Data collection strategies**

The study intended firstly, to find out what CA pedagogies TTC lecturers used as they prepared pre-service teachers as well as the quality and relevance of those pedagogies for knowledge and skills transfer for CA implementation in the primary schools. Secondly, the purpose was to determine how the pre-service teacher preparation pedagogies for CA implementation could be improved through a strategic pedagogic intervention (SPI). In order to achieve these objectives, the study was conducted in different phases.

##### **4.4.4.1 Phase 1: Baseline survey**

Phase 1 was a needs analysis that sought to address the first three research sub-questions. This phase was basically aimed at gathering broad data relating to how lecturers in the TTCs were actually preparing pre-service primary school teachers for CA implementation, and to determine how their pedagogies were suitable in meeting the requirements for CA implementation in schools as stipulated in the PCAR framework. A description of how data was actually collected follows.



**Table 4.5: Research questions and instruments**

	<b>Research question</b>	<b>Phase</b>	<b>Instruments</b>
1	What knowledge, attitude and practices of CA do TTC lecturers possess that impact on the CA pedagogies that they currently use for preparing pre-service primary school teachers?	1	Questionnaire, lecturer room observation guide, seminar presentations, interview protocol
2	How do the current content and pedagogical strategies support CA implementation?	1	Questionnaire, lecture room observation, seminar presentations, interview protocol
3	How could the pedagogies that lecturers use in pre-service teacher education programmes for CA implementation be improved?	1 & 2	Questionnaire, expert review, lecture room observation protocol, interview protocol, FGD interview guide,
4	How relevant and effective is the proposed pedagogy for CA implementation?	2 & 3	Literature review, feedback discussions, SMEs appraisals classroom observation checklist

#### **4.4.4.1 Questionnaire survey**

Data was collected from the lecturers and pre-service teachers using a knowledge, attitude and practice of continuous assessment (KAPCA) questionnaire. The pre-service teachers KAPCA questionnaire was a slight modification of the lecturers' KAPCA questionnaire administered as a way of triangulating the findings. The questionnaires were administered as a census survey whereby all lecturers and pre-service teachers were requested to complete the questionnaire. Prior to the distribution of the questionnaires, the researcher briefed the lecturers on the aim and goals of the study, and the demands and expectations during the entire research period in the college staff room. Questions for clarity were entertained and answered. Data collected through the questionnaires sought the lecturers' and pre-service teachers' knowledge, attitudes and practices of CA. This data was considered essential as it

acted as a prerequisite for the successful CA implementation (see the conceptual framework in chapter 3).

The principal of the college delegated the responsibility of distributing and collecting the questionnaires to the Academic Dean. The participants were asked to sign a written consent before participating in the study after they had carefully read and understood the aim, goals, risks and benefits for their involvement in the study. The questionnaires for the pre-service primary school teachers were distributed and collected by the respective class teachers.

#### **4.4.4.2      *Lecture room observation***

The administration of the questionnaire was followed by lecture room observations of some lecturers. During the lecturer room observations, data was collected by recording the observable behaviours of the lecturers using an action checklist. The researcher did not interfere with the lecture or communicate or question the lecturers' behaviours during the teaching and learning process (Nieuwenhuis, 2014, pp. 83-84). The success of an observation as a data-gathering strategy depends on the researcher's ability to define and clarify the purpose and focus of the observation. In addition, Nieuwenhuis (2014) suggests that the researcher should clearly know and understand what he/she exactly would like to observe. In this study, observation as a data gathering technique was aimed at determining the extent to which the lecturers utilised CA aspects in their lectures, and to assess how they helped the pre-service teachers acquire CA implementation skills. In addition, the lecturer room observation was carried out to check how the lecturers actually put into practice what they had indicated on the questionnaires as a way of methods triangulation. Data gathering focused mainly on the instructional practices of lecturers without necessarily overlooking other contextual variables that might also account for the lecturers' effectiveness or ineffectiveness.

To achieve this goal, an action checklist (Jacson, 2003; Schweigert, 2012) was used during the lecturer room observation. An action checklist is used to record whether specific behaviours were present or absent during the observation period (p. 54). The rationale for carrying out lecture room observations was based on the understanding that if we want to enable primary school teachers to be fully prepared for their world of work as effective implementers of CA, then we must probe the practices in their teacher preparation processes. It was therefore imperative that our understanding of the reasons that underlie teachers' ineffective implementation of CA, despite being trained/oriented, should be based on an exploration of the kind of teacher preparation the IPTE programmes provided in the lecture rooms. Hence the need to peer inside the black box of the lecture rooms.

#### **4.4.4.3      *Presentations on a daylong seminar***

In addition to data being collected through the administration of a questionnaire and lecturer room observations, data was also gathered through presentations by three SMEs who participated in a daylong seminar namely: a TTC lecturer, a primary education advisor (PEA) and an officer from MANEB responsible for Research and Test Development. The three present SMEs were requested to prepare a 30 minute presentation on the topic “What should a primary school teacher know and do when implementing CA in the schools? What are the challenges that teachers face as they implement CA in the schools, and how can those challenges be minimised?” The question “What should teachers know and do when implementing CA?” sought what the presenters felt to be the necessary knowledge and competencies that teachers should possess, and how they should put that knowledge and competencies into practice. While a presentations were in progress, the other participants were requested to take down notes especially on the commonalities and differences which were to be presented during the plenary session. At the end, a plenary session was carried out and each presenter gave the researcher a copy of their respective presentations. In addition, each presentation was video recorded in order to follow up with the presentations.

#### **4.4.4.4      *Interviews with SMEs***

The researcher organised interview sessions with the SMEs who had been invited for the daylong seminar but did not manage to attend. The initial plan was that a consensus was to be reached at the end of the daylong seminar regarding the necessary knowledge, competencies and the strategies that teachers were expected to possess and demonstrate when implementing CA in the schools. This consensus could not be reached in the absence of the other SMEs from this seminar. However, the researcher synthesised the presentations and the oral interviews to come up with what the stakeholders viewed as critical knowledge and skills for a teacher to be able to implement CA in the schools, and the challenges and solutions regarding CA implementation (see chapter 5)

The SMEs who were interviewed comprised two curriculum specialists from the MIE, one university Faculty of Education member from the UNIMA, three senior officers from the MoEST in the department of inspectorate and advisory services (DIAS), and one primary school teacher who had attended a reasonable number of seminars on CPD in CA. The primary school teacher was interviewed at the recommendation of a curriculum specialist who was coordinating the PCAR activities at the MIE.

The oral interviews were held in the SMEs offices (Curriculum specialists, Faculty of Education member, UNIMA, and two senior members from DIAS and MIE, and at the primary school

teacher's home respectively). Initially, the primary school teacher was to be interviewed at a tertiary institution where she was studying, but logistically, it was not feasible as she was rushing for home for the weekend. An alternative arrangement was made to conduct the interview at her residence.

In line with the presentations at the daylong seminar, the interviews with the SMEs focused on *“What should a primary school teacher know and be able to do when implementing CA in the schools? What were the challenges that the teachers faced as they implemented CA in the schools, and how could those challenges be minimised?”*

In some cases, the SMEs were asked to suggest the instructional approach that TTC lecturers should follow that could enhance pre-service teachers' effective knowledge and skills acquisition and transfer for CA implementation. Interview data from the SMEs was then videotaped and later transcribed.

#### **4.4.4.5 Extensive literature review**

Extensive literature research on “effective teaching strategies”, “teaching models”, and “teaching strategies” was carried out after a preliminary data analysis was conducted. This was done so as to identify an appropriate teaching strategy that would be in tandem with what the SMEs and TTC lecturers had suggested regarding the teaching approach that the TTC lecturers could use as they prepared pre-service teachers for CA implementation in the schools.

### **4.5 Research procedures**

Research procedures depict exactly what was done, when, by whom and to whom during the research process. To address the aim of the study which was to investigate and improve CA implementation in pre-service teacher education in Malawi, a two-fold approach (Januario, 2008): baseline survey and an intervention phase were applied in implementing the study. The thrust of the study was to investigate, through an intervention approach, the characteristics of a pedagogy TTC lecturers could use for preparing teachers for effective implementation of CA in primary schools. The baseline survey was aimed at describing and getting a deeper understanding of the problem at hand using mixed methods. Both quantitative and qualitative data were collected in order to determine what was going on in the TTCs during pre-service teacher preparation. Using multi-method, the study utilised a combination of both ‘quantitative’ and ‘qualitative’ approaches with the ambition to generate a more accurate and adequate understanding of the phenomenon under study than would be possible by using only one of these approaches (Biesta, 2012).

Before carrying out this study, approval was sought and obtained from the University of Pretoria, Faculty of Education ethics committee (see ethics clearance certificate). Prior to the administration of the questionnaires, lecture room observations and a day-long seminar, access to the research site was sought in writing from the MoEST through DTED (Appendix C); the Education Division Manager (EDM), and the principal of the college where the research was done. Permission to involve various SMEs was also sought from either their respective directors, deans or executive directors of their institutions (see Appendix D). Once the permission was granted, lecturers were invited in writing to voluntarily participate in the study and voluntarily sign the consent forms. The lecturers were briefed regarding the nature and the expectations of the research to be carried out. In a similar manner, pre-service teachers were also invited in writing to participate in the study. The letters of invitation were also attached to the questionnaires (see Appendix E). Prospective participants were first required to read the letter of invitation to participate in the study, and then sign the consent form before completing the questionnaires. The actual study was done in phases.

#### **4.5.1 Phase one-baseline survey**

##### **4.5.1.1 Questionnaire administration**

During the baseline survey, data were concurrently collected from the lecturers and pre-service primary school teachers using knowledge, attitude and practice of CA (KAPCA) questionnaires. The pre-service teacher's questionnaire was a slightly modified questionnaire from that of the lecturers but focused on the same aspects, and on their lecturers' instructional practices. The pre-service primary school teachers' questionnaire was administered by the respective class lecturers at the TTC as a way of triangulating data. The class lecturers were responsible for ensuring that each of the pre-service teachers signed the consent forms before completing the questionnaire. The class teachers then collected the questionnaires and the signed consent forms from the pre-service teachers and handed them over to the academic dean. The academic dean also collected the completed lecturers' questionnaires and consent forms from the lecturers. The researcher collected all the questionnaires from the academic dean.

##### **4.5.1.2 Lecturer room observation**

In addition, to triangulating the findings, data were qualitatively collected through observation using a classroom observation instrument which was in the form of an action checklist (Jacson, 2003; Schweigert, 2012). Prior to the lecture room observations, the researcher in consultation with the lecturers made a time table or schedule for the observations. The lecturers chose the time when they would want to be observed teaching. At the agreed time, the researcher met the lecturers in the latter's office and went together in the class. After greeting the pre-service

teachers, some lecturers introduced the researcher to the students as a visitor. Other lecturers did not introduce the researcher to the students. The researcher observed the instructional practices in the lecturer rooms without interrupting the instructional processes.

Due to the busy schedules of the lecturers, the observations were carried out for two weeks instead of the planned one week. All participating lecturers were observed once using the classroom observation action checklist. After the observations, debriefing sessions were held.

#### **4.5.1.3        *Debriefing session***

The debriefing sessions with some lecturers who were present at the TTC were conducted soon after the observations. It was during this session that the TTC lecturers were briefed on what aspects of CA implementation the researcher was looking for. The lecturers were also debriefed on what was observed regarding their teaching strategies. An opportunity was given to them to verify if what was observed and presented by the researcher was a true representation of their teaching strategies. This debriefing session and verification of the observations acted as member checking. The lecturers were also requested to explain why they taught the way they did. In addition, they were also requested to suggest a teaching strategy/teaching approach they would have loved to use all things being equal. During this session, the researcher took down some notes. All contributions made during the debriefing session were taken into account when designing the strategic pedagogy intervention (SPI).

The debriefing session was followed by a daylong seminar as explained below.

#### **4.5.1.4        *Daylong seminar***

Prior to the daylong seminar, the researcher sent out written invitations to the SMEs. The aim of the seminar was to establish what the different stakeholders' perceived as the ideal and requisite knowledge and skills primary school teachers should have in order to be able to implement CA. Such gatherings also sought to obtain data which could act as the blueprint for the design and development of the SPI for pre-service teacher education for effective CA implementation. Present at this seminar were six TTC lecturers who were designated to participate during the intervention phase, the academic dean, deputy principal who represented the principal, and three presenters from the SMEs. Two of the presentations were from people outside the TTC and one was from one of the faculty of Education at the UNIMA. Presenters were asked to present one after the other without any interruptions. The participants were asked to take note of each presentation, and identify the commonalities in the presentations regarding what a teacher should know and do when implementing CA. Presenters were then requested to leave a copy of the presentation with the researcher.

A discussion of the presentations which was facilitated by the researcher followed through plenary sessions. At the end, participants agreed to what they felt could be the approach that was to be followed when teaching pre-service primary school teachers which could ultimately enhance their knowledge and skills in CA implementation.

Presenters who were not available at the daylong seminar were later interviewed.

#### **4.5.1.5 Interviews with absentee SMEs**

It took some time before all the SMEs were interviewed because of their other commitments. During interviews with these SMEs, the researcher had to travel to each SMEs work station, meet at a neutral place or in their homes. At each occasion, the researcher introduced himself first to the interviewee and elaborated on the nature of the interview. He explained to the interviewee that the initial plan was that the SMEs were supposed to interact with other SMEs during the seminar and that this was meant to make up for their absence at that seminar. The researcher emphasised to each interviewee that the data collected was for academic purposes only. As in the seminar presentations, the interview focused on the knowledge and skills primary school teachers should possess for them to be able to implement CA. The participants were also asked identify the challenges that face CA implementation and how these can be mitigated. They were also supposed to give insights on the preparation of the pre-service teachers for CA implementation.

All the interviews except one were video recorded. It was difficult to record the one interview because the recorder was broken, and there was no alternative; however the field notes sufficed in this case. The researcher also took down field notes during the interview process. In one instance, two SMEs from DIAS were interviewed at the same time like a focus group discussion (FGD). Two curriculum specialists, one UNIMA member, three senior DIAS members and one primary school teacher with vast experience in CA activities were interviewed at different locations. During the interviews, the researcher probed into the interviewee's response for clarity and verification.

### **4.6.1 Phase two-intervention phase**

#### **4.6.1.1 Design and development of intervention**

Based on the findings of the baseline survey, phase two consisted of designing, developing and formatively evaluating a CA pedagogy as an intervention. The strategic pedagogic intervention (SPI) in the form of an instructional strategy aligned with direct/explicit instruction was developed and facilitated by the researcher. This was informed by the findings of the

baseline survey and the contributions from the SMEs on how CA implementation could occur in the TTCs. This is the phase that addressed sub-questions 3 and 4.

Before the design and development of the strategic pedagogy, an extensive literature review using search terms such as “effective teaching methods”, “what effective teachers do”, “effective teaching”, “teaching approaches”, “teaching methods”, and “teaching models” was carried out. This was done to search for a teaching strategy that was close to what the participants had indicated as their ideal teaching strategy.

The development of a teaching strategy that seemed to address the shortfalls experienced by the TTC lecturers was designed, developed and refined through formative evaluation and appraised by the research participants, stakeholders and some SMEs (see chapter six).

#### **4.6.1.2      *Training participants***

A workshop with the participants that were identified for the implementation of the intervention was organised. A presentation to the research participants for the intervention on the steps of the strategic pedagogy for pre-service teacher education for effective CA implementation was carried out by the researcher. The facilitation involved presenting the instructional phases which were to be included in a lesson. During the presentation, the researcher received feedback from the participants regarding the relevance of the terms used for each phase as well as the structure of the teaching model.

#### **4.6.1.3      *Trial run of the strategic pedagogic intervention (SPI)***

After the strategic pedagogic intervention (SPI) presentation by the researcher, two of the six participants practised teaching using the strategic pedagogy in the presence of fellow research participants. The lecturers taught topics of their choice on an aspect of CA using the strategic pedagogy. After the workshop, the participants tried out teaching the content and the strategic pedagogy learnt in the presence of other lecturers who were not participants during the training of the pedagogy. These lecturers were included during the trial run to act as critical peers as well as to evaluate the feasibility of the pedagogy. Nine critical peers attended the sessions when two of the six lecturers made their presentations. The intention was to receive formative feedback from TTC lecturers who would be the potential users of the strategic pedagogy. After the presentations, feedback was obtained from both the research participants and the other lecturers present. The feedback focused on the relevance, effectiveness and practicality of the strategic pedagogy.



#### **4.6.1.4 Implementation of the SPI**

The research participants then trialled out the final version of the strategic pedagogy in one class earmarked for the intervention. The six research participants for the intervention were later to teach topics related to CA in this identified class. The participants were requested to take note of whatever experiences they encountered when teaching the topics on CA while implementing the strategic pedagogy. The researcher monitored and evaluated the implementation of the strategic pedagogy during the trial period.

Only two research participants were actively involved in the implementation of the strategic pedagogy. The other two were posted away to new TTCs which had just been opened. Another participant was on maternity leave, and the other one was busy with research for his masters' degree.

#### **4.6.2 Phase three- assessment phase**

The final stage of the study involved a summative evaluation of the strategic pedagogy with the research participants using an interview guide. Initially, classroom observation of five selected pre-service-teachers who were taught CA implementation by the lecturers that participated in the intervention phase were to teach in their teaching practice schools to determine the extent they could integrate teaching/learning and assessments (CA). However, this aspect failed because it required ethical clearance from the Ethics committee as this was not covered by the initial certificate. Due to time constraints, the researcher felt it was not feasible to extend the ethics application for this task. The final evaluation culminated in the development of design principles of the strategic pedagogy for teacher education for effective CA implementation. Figure 4.4 demonstrates the model that was developed to guide the activities of the phases of the study.

As design research is characterised by a series of prototypes to arrive at a solution to the complex problem, each prototype was appraised and formatively evaluated at each phase by relevant expert from the MIE, UNIMA, DIAS and MANEB.

#### **4.7 Data analysis**

The study collected both quantitative and qualitative data (Biesta, 2012; Cohen, Manion, & Morrison, 2012; Creswell, 2012) to generate a more accurate and adequate understanding of the CA implementation problems than would be possible by using only one method. Miles and Huberman (1994) state that to understand the world, both numbers and words become useful. This way, both quantitative and qualitative data strengthen each other by enabling triangulation, complementarity, initiation, development and expansion (Biesta, 2012). The

questionnaire data had both closed and open-ended items. The close-ended items comprised the quantitative data whereas the open-ended items made up for the qualitative data of the questionnaire. In addition, the observations, debriefing session, daylong seminar and interviews comprised the qualitative data only. Data analysis involved analysing both the quantitative and qualitative data using appropriate data analysis procedures.

#### **4.7.1 Data analysis of the close-ended Items**

The close-ended Likert-items of the questionnaire were analysed using the Statistical Package for Social Science (SPSS) software by computing mode for central tendency (CT) and frequencies. In addition, Likert-scale data was analysed by determining the frequencies of the lecturers that either strongly agreed or agreed, and/ strongly disagreed or disagreed to a statement. Later, the strongly agreed and agreed as well as the strongly disagreed and disagreed were merged to either agreed and disagreed. This was done with the understanding that whether a participant strongly agreed or just agreed, the underlying issue was that of agreement. Similarly, whether a participant strongly disagreed or merely disagreed, the underlying issue is a disagreement.

#### **4.7.2 Data analysis of the questionnaire open-ended items, interview and debriefing session**

Data was transcribed before the analysis of interviews and debriefing session. After data transcription, the researcher read through the data for understanding and identifying common aspects (open coding) as presented by different research participants. The identified common aspects were then categorised into themes (Cohen, Manion & Morrison, 2012) using thematic content analysis which involved data reduction, data display, conclusion drawing and/or verification as suggested by Miles and Huberman (1994). The thematic content analysis was also carried out for the open-ended questionnaire items. In both cases, analysis was done manually to generate the codes and families that emerged from the data.

#### **4.7.3 Data analysis of the lecture room observation**

As indicated earlier, classroom observations were used to collect data where some lecturers were teaching. The observations data were collected using an action checklist (Jacson, 2003; Schweigert, 2012) whereby the researcher checked whether a behaviour of interest related to CA implementation occurred or not. Frequencies were then obtained for each aspect of interest on the observation action checklist.

#### **4.7.4 Analysis of feedback information**

The formative evaluation of each prototype formed part of data analysis. The feedback obtained from the formative evaluation was used in refining the prototypes. The feedback information was first transcribed and then open coded using codes that emerged from the data. The codes were categorised, and then themes generated. In order to determine the design principles for the strategic pedagogy for pre-service teacher education for effective CA implementation, the study adhered to quality criteria. (See Nieveen, 2007).

#### **4.7.5 Quality criteria for the intervention**

It is important that an intervention should be designed in such a way that it is seen to achieve what it sought to achieve. To achieve this, there are some quality criteria proposed in order to have high quality interventions (Nieveen, 2007). In line with design research, the following criteria for assessing the quality of the intervention were used for appraising each prototype: relevance, consistency, practicality and effectiveness.

##### **4.7.5.1 Relevance**

An intervention can be deemed to be relevant if its implementation satisfies the need that was prevalent before its implementation. This is also referred to as “content validity” (Nieveen, 2007). Nieveen (2007, p.26) explains that for the intervention to attain relevance, it must be based on “state of the art knowledge,” which implies that the designers of that intervention should know what is lacking and what needs to be put in place to produce desirable effects.

##### **4.7.5.2 Consistency**

The second criterion for high quality intervention is consistency. To attain consistency, an intervention design must be closely linked or related with other designs. This is also referred to as “construct validity”. It can be argued that although we have relevance and consistency as two distinct quality criteria, both of them are speaking about the need for the intervention to be valid.

##### **4.7.5.3 Practicality**

This quality criterion suggests that an intervention should be usable in the contexts for which it was designed. Plomp (2013) identifies two types of practicality which are described as expected and actual. For example, the strategic pedagogy for pre-service teacher education for effective CA implementation can be said to attain practicality if the TTC lecturers were able to use the pedagogy in their classrooms within the times allocated for a lecture, and that all the phases of the pedagogy were followed without any setbacks.

#### **4.7.5.4 Effectiveness**

The final criterion for high quality intervention as suggested by Nieveen, (2007) is effectiveness. An intervention is said to be effective if its implementation results in the desired outcomes for which it was originally designed. It needs to be pointed out that effectiveness could be a matter of degree. Some interventions could be effective to a greater extent while others could not really be. Related to the present study, the effectiveness of the pedagogy was intended to be determined at two levels. First, at the lecture room level in the TTCs during the intervention phase, and this was the expected effectiveness (Plomp, 2013). This was meant to gauge if the TTC lecturers were able to prepare their pre-service teachers following all the phases of the SPI, and the feedback they provided after using the strategic pedagogy. Secondly, the effectiveness of the strategy was to be determined if the pre-service teachers, who were exposed to the intervention, were able to implement CA after being trained using the novelty pedagogy. For the second level to be determined, it requires a great deal of time which the current research did not have. Besides the quality criteria, the research also adhered to methodological norms.

#### **4.8 Methodological norms**

As a mixed methods research design, the researcher used a combination of quality criteria for both quantitative and qualitative research. This was done by using different criteria for the quantitative and the qualitative aspects of the study (Bryman, Becker & Sempik, 2008). The questionnaire represented the quantitative component whereas daylong seminar, interviews, observations, and debriefing constituted the qualitative part. Every instrument used to gather data was designed with validity and reliability in mind. Validity is defined as the extent to which an instrument measures what it is supposed to measure and whether the inferences derived from the data were appropriate. Reliability is the consistency in measurement of an instrument.

There are a number of procedures for estimating the extent to which an instrument is valid and reliable. In order to ensure that the data collected was valid/credible and trustworthy, the researcher used multiple methods of data collection. For example, a knowledge attitude and practice of CA questionnaire was administered to the lecturers. This was followed by observations, daylong seminar presentations and interviews with SMEs and debriefing sessions. Use of different data collection tools through questionnaires, observations and debriefing sessions helped triangulate the data so as to improve the credibility and trustworthiness of the study (Maree, 2014). Triangulation, as a method used to establish the credibility and trustworthiness of a study, is a "procedure wherein researchers search for convergence among multiple and different sources of information" (Creswell & Miller, 2000, p. 126). In this study, the collection of information using both the closed-ended and open ended

items in the questionnaire was also seen as an embedded triangulation. Moreover, before the questionnaires were actually administered, the researcher piloted them at a TTC in the Central West Education Division (CWED). During the pilot study, participants were requested to comment on the clarity and readability of the items. The feedback from the pilot study led to the restructuring of the questionnaires. For example, the response section changed from a five-point Likert scale to a four-point Likert scale deleting the “neutral” option as it was observed to be contributing nothing regarding the extent to which the participants indicated their level of agreement or disagreement with the statements.

Another method that was used to ensure credibility and trustworthiness of the study was through holding debriefing sessions with the research participants. The participants were told to verify the observation findings if they reflected what occurred during lecture room sessions.

Another procedure that was used to establish the credibility and trustworthiness of the study was through member checking which has been described by Lincoln and Guba (1985) as “the most crucial technique for establishing credibility” (p. 314). Immediately after, or within the interview itself, the researcher either repeated what the participants had said in response to a question or played back the voice recording so that the participants could confirm whether what the researcher heard or recorded was a true reflection of their point of view.

Furthermore, the supervisors had access to all the processes of data collection, analysis and interpretation of the findings and provided constructive feedback in all the stages. Their involvement in this study acted as audit trail to establish the credibility of the study.

In order to ensure transferability of the research findings to other contexts, the researcher has provided adequate description of the research procedures followed in carrying out the study together with the contexts. Transferability of the findings can be enhanced if purposive sampling can be used in carrying out a study in contexts similar to the context in which the study occurred. In addition, the researcher has provided a description of the selection and characteristics of the participants; how data was actually collected, processed and analysed. Again, a rich and rigorous presentation of the findings together with appropriate quotations from the data has also been afforded to enhance transferability and also for audit trail.

In order to estimate the reliability of the questionnaire, the Cronbach alpha estimate of reliability was used, the outcome was  $r = 0.884$  which was a high reliability considering the sample size. In addition, the use of different data gathering methods for triangulation might have also increased the reliability of the data gathering methods as some errors of measurement in one instrument would be compensated for by using the other instruments.

Similarly, the quality criteria of the intervention such as relevance, consistency, practicality and effectiveness were used in appraising the strategic pedagogy.

While ensuring that the research adhered to methodological norms, issues of ethics were also taken into consideration.

#### **4.9 Ethical considerations**

Educational researchers are supposed to abide by a number of ethical issues before, during and after the research (Cohen, Manion, & Morrison, 2012; Creswell, 2012; de Vos, Strydom, Fouche, & Delpont, 2011). According to Ary, Jacobs, Razavieh and Sorensen (2006, p. 587) there are three essential ethical principles that must be followed in all research involving human subjects, and they include protection of the human subjects from harm (physical or mental); respect for subject's right to know the nature and purpose of the study, their right to give or withhold consent to participate, and respect for subject's privacy.

For this study, the initial ethical consideration that was made was to apply for ethical clearance from the Faculty of Education of the University of Pretoria Ethics Committee immediately after successful proposal defence. Data collection was carried out after ethics approval. In addition, in order to obtain access to the research sites and participants, written requests to carry out the research to the MoEST, the Education Division and the principal of the TTC were made, and approvals were granted. Besides these, individual letters were written to all research participants requesting them for their voluntary participation. The letters included such information as the goal of the study and its expectations; who will be involved, the kinds of data to be collected; how the data will be utilised, and how the participants were selected (see Appendix E).

To ensure voluntary participation, the letter of invitation to participate in the study clearly indicated that participation was voluntary. In addition, participants were assured that they were free to withdraw at any stage in the data collection process without any retribution or repercussions.

To ensure anonymity, participants were requested not to write their names on the questionnaires. In addition, the letter inviting the participants explicitly indicated that the data collected in the process were going to be used for academic research purposes only, and that the findings were going to be disseminated in local or international conferences, and through peer reviewed journals. The participants were also made aware that no other individual apart from the researcher and the supervisors were going to have access to the data. Assurances to participants were made regarding the fact that all information the participants provided

would not bear pseudonyms either in the thesis or journal articles. This was done so as to ensure the protection of the participants' privacy by holding confidential treatment of information.

In order to avoid disrupting sites, data collection was scheduled during normal lecture periods. The questionnaires were completed by the participants at their own free time while the lecture room observations were conducted during the lecturer's teaching period according to their scheduled time.

Finally, all research participants signed a written informed consent to participate. Primarily, the researcher ensured that power issues did not jeopardise the data collection processes by maintaining the position of a researcher throughout. Data collected were also secured with a password on the researcher's laptop, and were only accessible by the researcher and the supervisors.

#### **4.10 Conclusion**

The preceding chapter has presented information on how the study was actually carried out. Initially, it has presented and argued for design research as the research design that was deemed appropriate for this study. It also presented the research paradigm that the research adopted when carrying out the study. How the study was actually carried out was presented in the research methods and the research procedures sections. This was followed by how the data was analysed, methodological norms and research ethics. The chapter that follows presents the baseline findings that depict pre-service teacher preparation for CA implementation in the schools responding to questions 1, 2, and 3.

## CHAPTER 5

### **BASELINE SURVEY FINDINGS: PRE-SERVICE PRIMARY TEACHER PREPARATION**

#### **5.1 Introduction**

The previous chapter presented the research design and methodology that was used for the study of which aim was to investigate and understand how lecturers in TTCs prepared pre-service primary for CA implementation in the primary schools in Malawi, and the CA implementation challenges could be mitigated. In the process, the study sought to identify and understand the design principles and characteristics needed for an effective strategic pedagogy that could be used in pre-service teacher education.

This research was conducted using a three-phased approach. Phase one consisted of the baseline survey. This phase involved administration of the knowledge, attitudes and practice of CA (KAPCA) questionnaire to 51 lecturers and 221 pre-service teachers. Lecture room observation was also conducted in 22 lectures involving 22 lecturers as a means of triangulating the data. In addition, there was a daylong seminar with SMEs and some TTC lecturers who were targeted for the intervention phase. Interviews with the SMEs who were absent for the daylong seminar were conducted at either their convenient place in order to obtain their views. The interviews were done in three weeks after the daylong seminar. The purpose of the daylong seminar and interviews was to get information regarding what the participants' perception was regarding the knowledge and skills primary school teachers should have for them to be able to implement CA in the primary schools. The baseline survey involved collecting a wide range of data aimed at understanding how lecturers were actually preparing the pre-service teachers for CA implementation. Data were collected about their knowledge, attitudes and practice of CA, and the instructional strategies lecturers used in their lectures. Data was also collected to determine how the pedagogies that lecturers deployed in teacher preparation supported pre-service teachers' abilities to implement CA as stipulated in the PCAR framework document.

This chapter presents the findings of the baseline survey on how pre-service teachers were prepared for implementing CA in the schools. The findings contributed to the identification and formulation of the initial design of the first prototype of an effective strategic pedagogy for pre-service teacher education for effective CA implementation in primary schools in Malawi (Chapter 6). It presents findings to research sub-questions 1-3 of which data was obtained from the questionnaire survey, classroom observations, debriefing session, and feedback obtained soon after the daylong seminar, and the findings from the interviews with the SMEs.



The rest of the chapter is structured as follows: The demographic characteristics of the research participants are presented in section 5.2. The findings for research sub-questions 1, 2 and 3 are presented in sections 5.3, 5.4, and 5.5 respectively. Detailed findings of research sub-question three (3) are continued in chapter 6. Finally, Section 5.6 presents the conclusions of the chapter which summarises the findings to the research sub-questions:

1. What knowledge, attitudes and practice do TTC lecturers exhibit in the preparation of pre-service primary school teachers for CA implementation?
2. How do the current content and pedagogical strategies used in pre-service primary teacher preparation support CA implementation?
3. How can the instructional strategies that lecturers use when preparing pre-service teachers for CA be improved?

The section that follows presents the baseline survey findings starting with the demographic characteristics of the lecturers.

## **5.2 Baseline findings**

This section presents the baseline survey's findings according to each research sub-question. The demographic characteristics of the lecturers have been presented below.

### **5.2.1 The demographic characteristics of the lecturers**

#### **5.2.1.1 *The participants' age distribution***

A total of fifty-eight (58) knowledge, attitude and practice of CA (KAPCA) questionnaires were administered, and out of this, fifty-one (51) were completed and returned. Considering the fact that participants were informed of voluntary participation, the return rate was considered to be very good. Out of the fifty-one (51) lecturers who completed and returned the questionnaire, thirty-four (34) were males while seventeen (17) were females. Table 5.1 below shows the age of the lecturers. As can be observed that table, the majority of the participants were mid-career lecturers considering the mandatory retirement age of sixty (60).

**Table 5.1: Age distribution of the lecturers**

<b>Age</b>	<b>Number of lecturers</b>
25-29 years	5
30-34 years	4
35-39 years	10
40-44 years	18
45+ years	14
Total	51

### **5.2.1.2      *The academic qualification of the lecturers***

Out of the fifty one (51) lecturers, fifty (50) had a B. Ed as their highest academic qualification which is the minimum requirement for a lecturer at any public TTC in Malawi. This implied that all lecturers except one met the minimum requirements for lectureship. The one lecturer who had a diploma in education (Dip.Ed) as her highest academic qualification, was a Special Needs Education (SNE) specialist who was providing support to students with special needs.

### **5.2.1.3      *Lecturers' experience as primary school teachers***

Table 5.2 presents the experience of the lecturers as primary school teachers.

**Table 5.2: Lecturers' experience as primary school teachers**

<b>Years of experience</b>	<b>Number of lecturers</b>
None	11
Less than 1 year	1
1 - 5 years	19
6 -10 years	12
11 – 15 years	4
16 – 20 years	4
Total	51

From the table, it can be observed that thirty-nine (39) out of the fifty-one (51) lecturers had some experience of primary school teaching with a mean number of years as a primary school teacher of 7.5 years. Eleven lecturers had no experience of teaching at primary school, and one lecturer had less than one year's experience as a lecturer. Previously, a TTC lecturer position was a kind of promotion from primary school. However, with the introduction of a Bachelor of Education (Primary) in higher learning institutions like the Domasi College of Education (DCE) and Chancellor College (Chanco), a constituent college of the UNIMA, candidates who qualify for the B. Ed (Primary) can become lecturers after successfully completing their B.Ed programme. Hence, experience with primary school teaching is no longer a requirement for becoming a TTC lecturer.

#### **5.2.1.4 Years of experience as lecturer**

The table below presents the years of experience of the research participants as a lecturer.

**Table 5.3: Years of experience as lecturer**

<b>Years of experience</b>	<b>Number of lecturers</b>
Less than 1 year	4
1 - 5 years	37
6 -10 years	2
11 – 15 years	3
16 – 20 years	4
21 + years	1
Total	51

As can be seen from Table 5.3, more than half of the lecturers had very little experience and very few had over six years of lecturing. This indicates that the majority of the lecturers were recent graduates from colleges and universities that offer a degree programme in primary education. As recent graduates, the knowledge of CA, and how it is supposed to be implemented should be fresh in their minds.

#### **5.2.1.5 Lecturers experience with MANEB activities**

Table 5.4 presents the lecturers' experience with the Malawi National Examinations Board's (MANEB) assessment related activities.

**Table 5.4: Lecturers' experience with MANEB activities**

Experience in different types of MANEB activities	Number of lecturers
None	12
Item writer	28
Examination critique	3
Invigilator	6
Assistant examiner/ scorer	1
Chief examiner	1
Total	51

As can be seen from Table 5.4 above, the lecturers had varied experience with MANEB activities with only twelve participants (almost a quarter) having no experience with MANEB activities. The majority of the participants had some experience as item writers, while very few others had served as assistant examiners and chief examiners. Experience with item writing implies that the participants had some basic knowledge in test construction.

#### **5.2.1.6 Participation in CPD in continuous assessment**

Although the lecturers had different experiences as primary school teachers as well as lecturers, all but three had attended CPD in CA implementation. This implied that the majority of the lecturers had some knowledge regarding CA content knowledge and its implementation procedures.

Having presented the lecturers' demographic characteristics, the section that follows presents the lecturers' responses to research sub-question one (1) which sought the lecturers'

knowledge, attitudes and practice lecturers displayed in their preparation of the pre-service primary school teachers for CA implementation. The participants were asked to respond to statements by indicating the extent to which they either agreed or disagreed with the statement. During the analysis, some items were re-coded. The frequency of responses were then combined as follows: Agree (A) and strongly agree (SA) were re-coded to Agree (A). Disagree (D) and strongly disagree (SD) were re-coded to Disagree (D). The pooling of the responses was done after considering the fact that whether a participant agrees or strongly agrees with a statement the underlying response was “agreeing” with the statement. Similarly, when a participant either disagrees or strongly disagrees, the underlying response was basically “disagreeing”. The main differences in both cases was the level of agreement or disagreement. The overall findings are presented in Appendix E. The findings for each sub-question have been presented below.

### **5.2.2 What knowledge, attitudes and practice do TTC lecturers exhibit in their preparation of pre-service primary school teachers for CA implementation?**

The above research sub-question had three concepts, namely, knowledge, attitudes and practices. The items on the questionnaire were also classified into three sub-scales (see chapter 4 – section 4.4.3). The findings to the above sub-question have been presented according to the sub-scales beginning with the knowledge that TTC lecturers possessed as a per-requisite for effective preparation of the teachers for CA implementation.

Table 5.5 below presents the lecturers’ responses to the beliefs and knowledge of the policy on CA.

**Table 5.5: Lecturers' beliefs and knowledge on CA policy**

Item	Statements	Agree	Disagree
		(n)	(n)
B2	The purpose of applying continuous assessment is to monitor learning progress	51	0
B45	Continuous assessment is beneficial to both the teacher and the learners	51	0
B1	Assessment provides useful evidence for planning the next lesson	50	1
B7	Continuous assessment scores contribute to the learners' final score for the term or year	49	2
B13	Continuous assessment helps teaching and learning	48	3
B3	Implementing continuous assessment informs my teaching	47	4
B43	Continuous assessment is used to inform teaching and learning	46	5
B8	A teacher decides what continuous assessment scores are to be recorded	39	12
B10	A teacher is the only person responsible for implementing continuous assessment	32	19
B6	A teacher has to record all continuous assessment results	31	20
B8	Not all continuous assessment scores are to be recorded	30	21
B12	CA is the only basis for determining whether a learner is doing well in a course of study or subject	21	30

From Table 5.5 above, it can be observed that over thirty participants tended to agree with almost all (10 out of 12 statements) of the beliefs and knowledge of CA policy with the highest

endorsement (51 participants) on statements B2, B45, and next highest (50 and 49 participants) on statements B1 and B7 respectively. While the lowest endorsement on statement B12, which was a reverse statement which in essence suggests that “CA is *not* just the only basis for determining whether a learner is doing well in a course or subject”.

The participants were able to endorse accordingly to the positively as well as negatively worded statements. This equivocal response indicated that they had positive beliefs and knowledge about CA policy, and how it is supposed to be implemented. This finding was supported by the responses to some open-ended items that sought the participants’ knowledge on CA. For example, item C1 of the open ended items (see Appendix A) sought to amass the lecturer’s understanding of the term CA.

In response to the question regarding what the participants understood by CA, there were varied responses. However, the definition included common words or phrases which showed familiarity with the meaning of CA as can be seen in the following sample responses:

*Checking learners’ understanding in the course of teaching and learning in order to let learners improve on their weaknesses and contribute to their end of term or final year grade. (Participant 1)*

*It is the on-going process of checking and monitoring learners’ performance and learning. (Participant 2)*

*It is an on-going process on checking learners’ performance in different classroom tasks. (Participant 3)*

*Assessment used continuously (frequently) (Participant 4)*

*It is a way of measuring the learners’ behaviour at regular intervals throughout the course. (Participant 8)*

*It’s an assessment done on a regular basis to check the understanding of the learners on the learned areas and use this understanding to improve the teaching and learning. (Participant 9)*

*It is the process of finding out the progress of teaching and learning process through tasks such as exercises, projects, presentations, experiments, and many others throughout a term, year or course. (Participant 11)*



*An on-going assessment that can happen in the course of teaching or as the lesson progresses. (Participant 12)*

*It is an on-going process of measuring learners' behaviour throughout the teaching and learning process. (Participant 46)*

*This is the type of assessment that is done in the course of teaching and learning to monitor progress of learners in a course of study. (Participant 48)*

From their responses, CA meant an on-going procedure of determining the progress learners are making during the teaching and learning process through quizzes, exercises, questions, projects, and to provide feedback for learning improvement. Moreover, responding to the open-ended question C2, regarding the importance of CA, the lecturers were able to identify the following issues as the importance of continuous assessment in the instructional process. Most of the lecturers indicated that CA was beneficial as it provided feedback to both the teacher and learners, improving teaching and learning and motivating student's learning. A summary of the responses are presented in Table 5.6.

**Table 5.6: Importance of continuous assessment**

<b>Importance of CA</b>	<b>Participants</b>
Helps in decision making	5
Provides feedback	29
Motivating students' learning	5
For grading and promotion	8
Improves teaching and learning	4

Other lecturers indicated that CA was important for motivating students to learn (5) and for improving teaching and learning (4). However, some participants focused on grading and promotion (8) which are not the major purposes of CA. For example, some lecturers indicated the following as the importance of CA, *"Helps in assessing performance of learners;" "Helps to promote learners to the next level"*.

In addition, the lecturers indicated the assessment procedures that a teacher would perform when implementing CA (see Appendix A Item C3). The lecturers mentioned such activities as preparation of the tasks, oral questions, exercises, projects, quizzes, practical tasks, assignments as well as providing feedback. The tasks could range from simple to complex as evidenced in the following sample responses:

*Projects experiments, assignments. (Participant 5)*

*So many class exercises, experiments, projects. (Participant 6)*

*Proper preparation of assessment activities on time. (Participant 7)*

*Give assignments whether group or individual. Mark the assignments and give feedback to learners. (Participant 12)*

*Hands-on activities, projects/ assignments, experiments. (Participant 15).*

*Hands-on activities e.g., making of brooms, papier mache etc.*

*Performances e.g., traditional dances, plays etc. (Participant 16)*

*Constructing relevant tasks. Giving tasks e.g., in groups. Check their responses- e.g., plenary/presentation. Giving feedback- consolidation.*

*(Participant 20)*

*Ask oral questions. Give hands-on activities. (Participant 21)*

*Activities can be in a written form through written work. Can be behaviour through behaviour observation. (Participant 22)*

*Developing items or activity. Administering to learners. Checking and assessing learners' performance- Correction of errors. (Participant 23)*

Generally, participants mentioned assessment- related procedures such as oral questions, exercises, and quizzes. However, the assessment procedures were not presented as following a teaching segment during teaching and learning. Most of them presented steps to be followed when assessing students. None of the participants indicated that during teaching, teachers should tell the learners what they were going to learn as well as how they will know if they have learned. In addition, they did not indicate that CA activities should come from a

teaching segment in the form of questions, observations and exercises. Learner involvement in the form of peer and self-assessment was not mentioned by the participants. It was not clear why the participants did not include some of these important issues. It could be argued that this was due to the fact that the lecturers had theoretical knowledge about assessment, and little practical experience given that a fifth had not taught before, most have only a few years of teaching experience and most have little lecturing experience.

The lecturers' responses regarding the kind of knowledge that teachers were supposed to possess for effective CA implementation were supported by the SMEs responses.

As indicated in Chapter 4, subject matter experts (SMEs) who comprised curriculum specialists (2), school inspectors and advisors (3), university lecturers (1), and a qualified primary school teacher with vast experience in CA issues, either presented on a daylong seminar or were interviewed on the question: What should a teacher know and be able to do when implementing CA? The subsidiary questions were: What challenges do the teachers face as they implement CA in the schools, how the challenges can be overcome, and what strategies should lecturers use as they prepare pre-service teachers for CA implementation? The findings have been presented following the structure of the question.

What a teacher should know and be able to do when implementing CA in the schools.

#### **5.2.2.1 Subject matter experts (SMEs) perspectives on knowledge teachers' require for continuous assessment**

The SMEs indicated that the teachers should know basic principles of assessment with a focus on types of assessment namely: assessment for learning (formative assessment/continuous assessment), and assessment of learning (summative assessment). On CA, the SMEs specifically indicated the need for the teacher to know the recommended tools for assessing learners, scoring as well as for records keeping. They were also supposed to know when to assess, and how to assess as evidenced in the sample responses:

*And for this to be done effectively, at least a teacher needs to know the methods or techniques on how to assess learners be it in the classroom or outside the classroom in the course of teaching or after teaching and also needs to know the kind of tools to use to actually assess the learners objectively. (Micheline)*

This was also corroborated by the curriculum specialist who said:

*...our expectation was first of all the teacher should understand what the CA is for in the classroom. So mainly we were concerned with the assessment for and not assessment of learning. So, there are several aspects that we expect the teacher to know one of which is different types of assessments that are available or different methods of assessment that are available. (Ezara)*

*In addition, a teacher can also record whatever he or she assesses and this is important but then this cannot be done maybe on a daily basis but of course it depends on how often one can do that because assessment can be done even without recording. (Ezara)*

In addition, a teacher is also supposed to know how to make decisions based on the results, and know how to give feedback to parents and other stakeholders.

For effective CA implementation, teachers are also supposed to know the target audience “... there is need for the teacher to consider the target” (Ronald).

Not only should a teacher have knowledge in those areas but also should have subject matter content knowledge as well as pedagogical content knowledge of CA as evidenced in the following:

*Knowledge of the subject matter that the teacher is going to teach is key. Within the knowledge, we should also see to it that the teacher knows the skills and competencies that the children have to attain. (Ronald)*

Moreover, primary school teachers are also expected to know the role of CA in the teaching and learning process as evidenced by the views of curriculum specialists:

*.... we also expected the teacher to know the tools that he can use aah to achieve the assessment process in the classroom. So, he should be able to associate aah different methods. (Khopara)*

The SMEs specifically indicated that a teacher should be able to do the following activities during instruction as indicative of continuous assessment implementation:

- asking questions during the teaching and learning,

- giving exercises,
- quizzes,
- projects and assignments and
- providing feedback.

#### **5.2.2.2      *Lecturers' views on challenges pre-service teachers may face when implementing continuous assessment***

The lecturers also presented challenges that they anticipated pre-service teachers would encounter in the schools when implementing CA (see Appendix A Item C4). Based on their responses, four themes emerged: *content knowledge challenges* (knowledge of various aspects of continuous assessment) and *continuous assessment pedagogical challenges* and *situational or contextual challenges* and *resource constraints* as can be observed in the following sample of responses:

Challenges related with lack of CA content knowledge and pedagogical content knowledge:

*Inability to assess all the learners equally, appropriately and timely on individual lessons/topics. (Participant 1)*

*Lack of knowledge and skills in preparing CA items.*

*(Participant 2)*

*How to develop good continuous assessment. (Participant 8)*

*Difficult to implement CA in large classes (Participant 12).*

*Lack of thorough knowledge of CA (Participant 13).*

*[Lack of] thorough preparation (Participant 17).*

*Lack of well trained personnel (Participant 26).*

*Planning assessment tasks which are valid and reliable. (Participant 18).*

*Producing assessment tools (Participant 18).*

*Record keeping (Participant 18).*

*How to come up with varied CA forms (Participant 24).*

*Distinguishing continuous assessment from summative assessment (Participant 24).*

*Lack of enough knowledge on how to formulate assessment questions (Participant 25).*

*Developing assessment activities which most of the time is mistaken for tests. (Participant 29).*

*The biggest challenge would be time management in terms of construction of the assessments as well as on [giving] feedback because of scope of the curriculum or syllabus (Participant 30).*

*They will have problems to demarcate between time of teaching and time of assessment (Participant 35)*

*How to construct assessment items. (Knowledge) Giving perfect feedback to learners (Participant 40).*

*Lack of knowledge on how to implement CA since*

*time to formulate the items will not be available and even time to mark the*

*assessment items (Participant 43).*

*Lack of knowledge and skills in conducting continuous assessment (Participant 46).*

The contextual challenges were mainly due to *large class sizes, resistance to change* and *lack of resources* as evidenced in the following:

Contextual challenges due to large class size

The following were responses that indicated the contextual challenge due to large class size:

*Large number of learners (Participant 4).*

*Too much work as well as large classes (Participant 5).*

*Failure to give feedback to learners due to large classes.*

*(Participant 11)*

*Large classes, difficult to assess (Participant 12).*

*Large classes (Participant 15).*

*Large classes which will make students spend more time in marking*

*and recording results (Participant 19).*

*The classes are large- it will be difficult to effectively record results and monitor individual learner progress (Participant 20).*

*Large classes. Due to large classes teachers cannot provide immediate feedback to every rate of progress (Participant 22).*

*Overcrowded classrooms resulting in increased load during scoring (Participant 24)*

*Large classes hence consuming more time to either administer or mark the assessment (Participant 31).*

*Large enrolment. (Participant 7)*

*Large classes 1 against 100 plus students (Participant 6)*

*In most schools, they will experience large classes which can be a challenge when implementing continuous assessment (Participant 39)*

Resistance from other teachers was also cited as another factor that would negatively affect effective CA implementation in the schools as evidenced in the following sampled responses:

*Resistance from qualified teachers who may discourage the system (Participant 9)*

*Conservative [nature] of other teachers- not wanting to change (Participant 14)*

*Negative attitude (Participant 33)*

*Lack of interest due to discouragement from qualified teachers (Participant 38)*

*Face resistance in schools (Participant 44).*

*Poor relationship among teachers (Participant 44).*

*Lack of proper guidance and monitoring from the older members of staff. (Participant 47)*

*Resistance to change from other members of staff. (Participant 47)*

The other issue that was mentioned which pre-service teachers would face when implementing CA in the schools was *lack of resources* as shown in the sample responses below:

*Time factor: One teacher against five or more subjects. (Yes. It might be difficult to prepare for effective CA for five learning areas). Set activities take a lot of time (Participant 6).*

*Lack of resources (Participant 12).*

*Lack of resources (Participant 14).*

*Shortage of time for all the required procedures (Participant 23).*

*Shortage of usable resources (Participant 26).*

*Lack of resources to aid the storage of grades (Participant 27).*

*Lack of resources if the assessment involves writing a case study or story for each learner (Participant 31).*

*Lack of time- so many topics to cover within a short period (Participant 33).*

Continuous assessment implementation is not without challenges. This has been evidenced by the findings above. The lecturers' presentation of the challenges they foresaw would affect pre-service teachers' effective CA implementation suggested that they were knowledgeable of what was involved in CA implementation. One would only hope that the instructional strategies that lecturers in TTCs used to prepare pre-service teachers so that they would be able to implement CA would be done in such a way that they minimised the challenges. In addition, the issue of resistance from qualified teachers might also have an impact on the newly qualified teachers, and there is need to find ways of improving its influence to the pre-service teachers as they join the teaching service.

For effective CA implementation in the schools, pre-service teachers are supposed to be equipped with the knowledge and skills on CA implementation as well as be supported with necessary skills that would help to either minimise or overcome any barriers to successful CA implementation in the schools. When asked how the lecturers supported the pre-service teachers on how to overcome the challenges which the pre-service teachers were likely to encounter as they implemented CA (see Appendix A, Item C5), a number of procedures were highlighted. The lecturers' support was categorised as *"instructional support for effective*



*continuous assessment implementation” and, “administrative practices that would support effective CA implementation”.*

### **5.2.2.3 Instructional support for effective continuous assessment implementation**

Lecturers’ responses that reflected what they did during instruction as a way of supporting pre-service teachers to minimise the challenges they would likely encounter during CA implementation were categorised as instructional support. Under this theme, two sub themes emerged. Firstly, the instructional support that the lecturers rendered during instruction and secondly, the instructional support that the pre-service teachers would use during the teaching and learning process as evidenced below.

The following sampled responses indicated what the lecturers said they did during instruction as a way of providing support to the pre-service teachers to minimise the challenges they might encounter when implementing CA:

*Discussing with students how to come up with effective CA items. (Participant 2)*

*By equipping them with skills on proper time management and the use of appropriate resources. (Participant 3)*

*Conducting an orientation on how to develop good and effective tasks (Participant 8).*

*There is a topic in Foundation Studies (module) and through this, students may practice assessing 1 or 2 items at a time (Participant10).*

*We train them to assess after a unit or topic so that there isn’t too much work to write within a lesson and mark within a short period despite the large class numbers (Participant 11).*

*Give group assignments to reduce workload (Participant 12).*

*Teach them how to deal with classes that have large numbers of students, for example, by reducing the number of assignments (Participant 15).*

*Orienting them on how to use assessment tools (Participant 18).*

*Marking can be done by the learners’ themselves, and some assessments can be administered in groups or to part of the class and then the other part latter (Participant 19).*

*Teaching them the skill of planning and time management (Participant 23).*

*Assisting them to come up with varied forms of assessments rather than paper and pencil tests...and asking them to assess learners as the lesson progresses or at the end of a unit for them to differentiate CA from summative assessment (Participant 24).*

*By equipping them with skills on proper time management and the use of appropriate resources (Participant 13).*

*Training them on the formulation of assessment questions and data management (Participant 25).*

*Encouraging the pre-service teachers to administer the assessment in groups in the case of large class sizes (Participant 27).*

*Training them on how to develop portfolios and rubrics for storing grades (Participant 27).*

*Give them advice on proper time management and planning skills (Participant 16).*

*Advise them to record the assessment results once per week rather than to record each assessment (Participant 37).*

*By equipping them with the necessary and appropriate skills while in college (Participant 38).*

*Providing them with skills on how to construct assessment items (Participant 40).*

*By giving them hands and brains on activities on CA during their teaching practicum (Participant 46).*

*I help them acquire creative skills of teaching and assessing using locally available resources. I give them guidance and monitor their assessment activities for remediation and enrichment (Participant 47).*

*They are given more practice on how to use various tools. They are also assessed using similar tool like reports, checklists (Participant 48).*

*Give them thorough knowledge and skills on CA (Participant 49).*

*Through proper training on the use of TALULAR (Participant 14).*

*Encouraging them to use TALULAR and employ time management (Participant 21).*

#### **5.2.2.4 Administrative practices that would support effective continuous assessment implementation**

On the administrative practices, the participants indicated that they supported pre-service primary school teachers by encouraging them to have manageable class sizes by splitting classes, and ensuring that some of their duties/ responsibilities of the pre-service teachers were relieved to concentrate on their teaching duties as shown below:

*Split the classes into smaller number of students (Participant 4).*

*Split the classes into smaller number of students (Participant 6).*

*Talking to head-teachers to reduce the number of learners in student teachers' classes (Participant 6).*

*Relieving them of some responsibilities (Participant 17).*

A critical examination of the above suggestions, indicate that some of them would be difficult to implement. For example, splitting classes cannot be done by the teacher but rather the school administrators. In addition, this suggestion may increase the contact hours for the teachers when the same teacher is involved in the teaching.

#### **5.2.2.5 Summary of the support lecturers provided to pre-service teachers to overcome continuous assessment implementation challenges**

Since one of the roles of TTC lecturers is preparing pre-service teachers for CA implementation, they are supposed to equip these teachers with the knowledge and skills for CA implementation as well as providing them with necessary skills for mitigating any barriers related to CA implementation in the schools. The findings suggested that the lecturers realised that teacher education has a role to play in overcoming most of the challenges pre-service teachers face when implementing CA in the schools. For example, most respondents indicated that equipping teachers with relevant knowledge and skills for CA implementation while in the TTCs, and encouraging them to implement it in groups when classes have large numbers of students, would be helpful. In addition, the lecturers mentioned that CA could be performed informally through observations without necessarily recording scores. Furthermore, the lecturers indicated that they encouraged the pre-service teachers to be selective when recording scores for CA in order to reduce instances of too much workload. On inadequate resources, the lecturers suggested encouraging the pre-service teachers to not only be resourceful but also to improvise and teach using locally available resources (TALULAR). Although some participants suggested to reduce large class sizes by splitting them, this was

seen not to be a viable option because it was a policy issue which could only be handled administratively. Importantly, some participants suggested that pre-service teachers should be thoroughly trained on how to develop, administer and record CA activities while in college, and practice the same during teaching practicum. In other words, to provide “brains on and hands on” activities related with CA. However, the lecturers did not mention that they themselves were supposed to be role models of CA implementation so that the pre-service teachers should emulate.

Knowledge of CA and how it was to be implemented was also noted in the participants’ response to the question on the average number of students lecturers felt a primary school teacher could effectively handle when implementing CA (see Appendix A, Item C6). The question was based on the assumption that the number of learners in a class does affect effective implementation of CA as it determines the type and number of activities to be given and the quality of feedback to be given to learners.

In response to the desirable class size for effective CA, the lecturers’ responses ranged from class sizes of 15 to 60 as presented in Table 5.7 below.

**Table 5.7: Lecturer’s perceptions about the average number of students a teacher can manage when implementing continuous assessment.**

<b>Class size</b>	<b>Frequency of responses</b>
15- 24	8
25-34	11
35-44	16
45-54	5
60+	10

Although there was a variety of what the participants considered as a “manageable” class size for effective CA implementation as shown in Table 5.7, one common theme running across the responses was that CA implementation was dependent upon the number of students a teacher has, and the type of CA activities administered. Smaller class sizes were preferred to large ones as they provided ample room for effective provision of feedback to learners. The class size ranged from 15 to 60 although the majority were in the region of 40. However, the

preferred class sizes were not at par with the reality on the ground as class sizes of 80 to 120 were common in the majority of the primary schools in Malawi despite government's recommended class sizes of 60 learners.

From the data, it can be concluded that, generally, the lecturers demonstrated some theoretical knowledge necessary to effectively prepare pre-service teachers for CA implementation in the schools

#### **5.2.2.6 Lecturers' attitude towards continuous assessment and its implementation**

The previous sections presented the lecturers' knowledge of CA. This section focuses on presenting the lecturers attitudes towards CA as shown in the table below.

**Table 5.8: Lecturers' attitude towards continuous assessment**

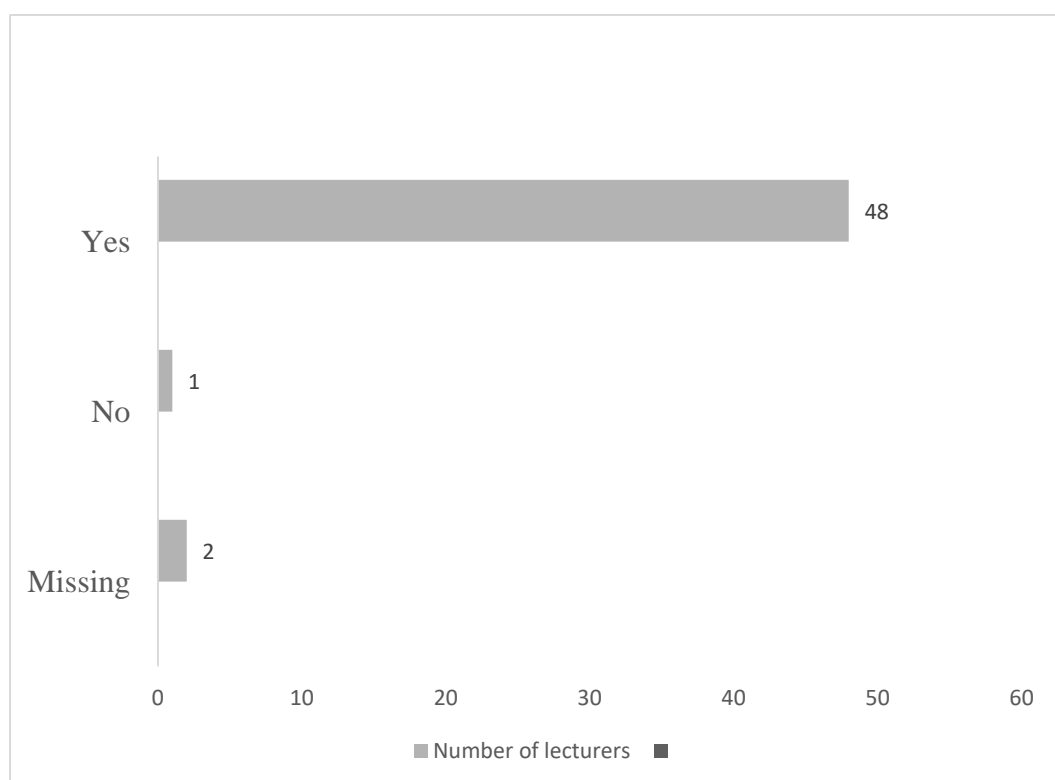
Item	Statements	Agree	Disagree
		n	n
B27	I find students' errors helpful because they give me information about how they think	50	1
B26	I think students effort is important when assessing learning	48	3
B4	Implementing CA takes away important teaching time	41	10
B36	My own classroom assessments are more useful than formal assessments	36	15
B11	Continuous assessment implementation is very complex	26	25
B5(R)	Continuous assessment makes learners anxious about assessment	15	36

As presented in Table 5.8 above regarding participants attitude towards CA, it can be observed that statements B27 (I find student's errors helpful because they give me information about how students are thinking), B26 (I think students effort is important when I assess their learning) and B4 (Implementing CA takes away important teaching time) had the highest endorsement. However, it needs to be pointed out that a high endorsement on statement B4 (Implementing CA takes away important teaching time) implies a negative attitude and could

have serious implications on the implementation of CA. It was not clear whether the lecturers understood what the statement really meant. Similarly, the increased number of lecturers disagreeing with statement B5 (CA makes learners anxious about assessment) should be taken to mean a favourable attitude as this was a reverse statement. If the majority of the lecturers had agreed with the statement, it would have implied that CA caused anxiety among learners.

Generally, with the exception of statement B4, the lecturers portrayed a positive attitude towards CA.

Another piece of evidence that suggested that lecturers had positive attitudes towards CA was noted in the lecturers' response to a question which asked them if they would consider asking their students to implement CA in their teaching and learning process in the schools. The majority of the lecturers (48) responded affirmatively while the rest either missed the response or gave a negative response as shown in the figure below:



**Figure 5.1: Considerations for implementing continuous assessment**

A number of reasons were given by lecturers for encouraging pre-service teachers to implement CA during the teaching and learning process. It was observed that implementation of CA was considered beneficial to both the teacher, learners and the teaching contexts.

When asked about how beneficial CA was in the teaching and learning processes, the lecturers asserted that CA was beneficial to the teachers. This response assumed that the lecturers viewed CA as a critical element of the teaching and learning process hence the pre-service teachers needed to be encouraged to implement it in the schools. The following are the reasons lecturers gave:

*Continuous assessment helps teachers to improve their methods (Participant 49).*

*To know how learners have obtained what was learned (Participant 44)*

*It's the best way to know the performance of your learners (Participant 45).*

*It helps the teacher to know the areas for improvement, and also the resources to be used so that the learners can understand the concepts easily (Participant 42).*

*This helps the teacher [know] how to prepare in the next lesson considering how they performed in the previous lesson (Participant 40).*

*Because it helps the teacher to know if teaching and learning is taking place (Participant 36).*

*I would because that is the best way for a teacher to judge his or her effectiveness and assist learners to develop. The feedback sessions would highly assist in re-planning as well as assisting learners in their learning (Participant 30).*

*Asking students to implement CA during teaching and learning is vital. It assists the teacher evaluate. This helps the teacher to check if the learners understood the concepts given to them (Participant 22).*

*It is the only way we can know that students/learners are progressing at each level/stage (Participant 20).*

*Because it will help them to have clear feedback about the progress of their learners in the teaching and learning process (Participant 16).*

In addition to believing that CA was beneficial to the teacher, the lecturers also indicated that they would encourage the pre-service teachers to implement CA in the schools as they believed it also benefited the learners. This is reflected in the following responses:

*Continuous assessment helps to monitor progress of the learners. It also motivates the learners to work hard throughout their course of work (Participant 48).*

*Yes, because this encourages learners to read what they have learned in class (Participant 51).*

*Helps to improve student's understanding of content (Participant 23).*

The participants also indicated that they would encourage the pre-service teachers to implement CA because it supported the teaching and learning process. This was evidenced in the following sampled responses.

*It is an integral part of teaching and learning process (Participant 46).*

*Because it is part and parcel of the teaching and learning processes according to our curriculum which is outcomes based (Participant 25).*

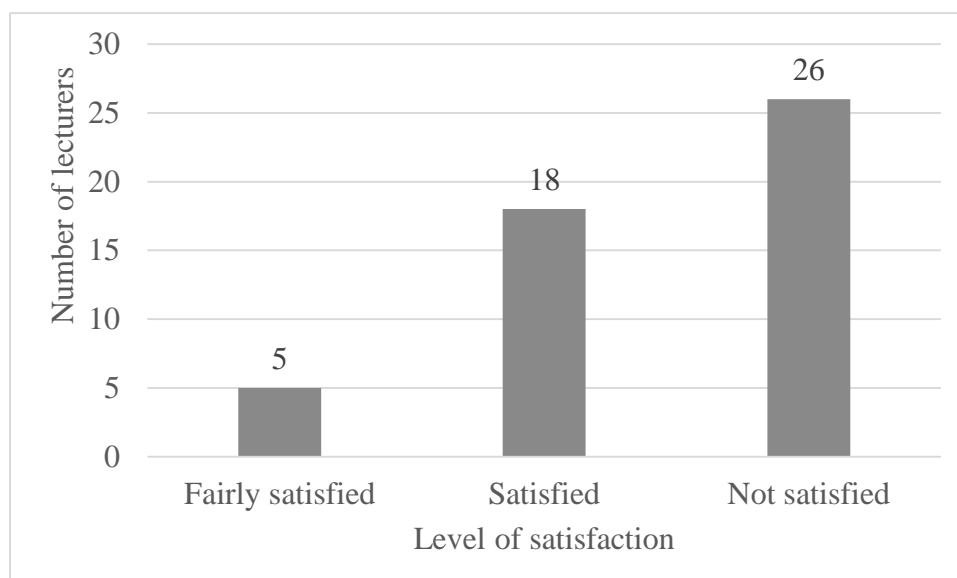
*It is very important for improving teaching and learning (Participant 19).*

*It is a good way of testing and also it is part of teaching and learning process (Participant 17).*

*Because assessment is part of teaching (Participant 13).*

When the lecturers were asked to indicate their level of satisfaction in the way they prepared the pre-service teachers for CA implementation in the classroom, the majority said that they were not satisfied, and very few were satisfied with the way they prepared teachers for CA implementation in the schools. Eighteen out of fifty-one lecturers indicated that they were satisfied while the rest were either not satisfied or were fairly satisfied as shown in the Figure 5.2.





**Figure 5.2: Lecturers' level of satisfaction about teacher preparation for continuous assessment implementation**

The lecturers who were fairly satisfied indicated that this was due to the pre-service teachers' lack of accepting the procedure, how it was taught and the pre-service teachers were not given enough opportunity to practice CA implementation as shown below.

*Fairly satisfied because not all the students feel comfortable with mode of assessment especially constructing tasks for the assessment (Participant 13).*

*We try our best and our expectation is that they can implement CA in their classroom (Participant 48).*

*Partial satisfaction due to the fact that the teachers do not have ample opportunities to practice with real learners in schools (Participant 35).*

*Forty percent, I do not like the idea of taking students for micro teaching practice before finishing their first year. There [are] a lot of mistakes student teachers make which may impact on learners' perception towards their learning (Participant 33).*

*Fairly satisfied; nevertheless I am happy much is being taken in consideration for further improvement (Participant 21).*

There were some lecturers who were either satisfied or very satisfied with the strategies they used when implementing CA as evidenced in the following sampled responses.

*Yes, learners are only equipped with the necessary skills and knowledge for CA though time is limited (Participant 47).*

*I am satisfied very much. Learners are taught the assessment tools, and how they can be formulated, and they practically formulate. There is actually a topic on assessment in Education Foundations (Participant 11).*

*The pre-service teachers are thoroughly prepared on how to assess learners, they learned what assessment is; types and benefits of assessment and how to assess learners (Participant 12).*

*My satisfaction is mainly because even the pre-service teachers are also assessed using CA. So they will not face difficulties when implementing it in their classrooms (Participant 27).*

*I always encourage them to be well prepared as they are graded (Participant 26).*

*Satisfied because they are exposed to the assessment procedures and construction of [assessment] tools. However, there is need to do more on orientation to teaching practice- time is not adequate (Participant 20).*

Some of the reasons given by the lecturers who indicated that they were not satisfied were categorised as follows: *Little time was provided for CA; the nature of the curriculum and its implementation; lack of effective monitoring and evaluation; lack of practising CA implementation while on training, and lack of CA knowledge.* Participants who indicated lack of satisfaction in the way they prepared pre-service teachers for CA citing time as the barrier had this to say:

*Not satisfied they are half-baked due to short [sic] of time they stay in college (Participant 6).*

*Not very satisfied because assessment requires a lot and very little is done to prepare the pre-service teachers on it, and the expected assessment standards are yet to be followed (Participant 16).*

*They are not fully equipped/ prepared because of the time factor since the actual teaching is geared towards completing the syllabus (Participant 3).*

*Not very, they should be given a lot of time (Participant 38).*

*Not really, because some of the students are not well followed during Teaching Practice, hence you can't tell whether this is working as only some lecturers go for Teaching Practice (Participant 30).*

*We are not doing enough, as the focus is mostly on the course content and the students are not given enough time to practice the skills (Participant 30).*

The participants who indicated lack of satisfaction due to the nature of the curriculum indicated that CA featured more highly in Education Foundation courses than in other courses offered at the TTC. They also observed that little emphasis was placed on CA in the initial teacher education (ITE), and that students were not really exposed to issues related to CA implementation. They further noted that there was lack of opportunities for pre-service teachers to practice how to implement CA while in college, and that CA was not considered to be a cross-cutting issue in all the subjects. The responses below talk to these observations.

*Not very satisfied because the topic on CA is featured mainly in one course Education Foundation Studies. Yet assessment is done in all subjects (Participant 19).*

*Not [sic] satisfied because the course gives very little emphasis on continuous assessment (Participant 49).*

*Not much, the curriculum only has an hour to help pre-service teachers know about continuous assessment in the classroom (Participant 43).*

*Not very satisfied as the continuous assessments given are those of college level. Student teachers are supposed, I feel to try using continuous assessment on their peers or demonstration school learners (sic) (Participant 9).*

*Not satisfied, students are not exposed too much to what is expected of them when they get into the field (Participant 7).*

*Am not satisfied much because assessment is not discussed much in other subjects rather than foundation (Participant 51).*

*Pre-service teachers are oriented about CA within a short period when they are about to go to the practicing schools, the work/orientation cannot be satisfactory (Participant 5).*

Some lecturers indicated lack of satisfaction in the way they prepared the pre-service teachers for CA implementation because the lecturers had inadequate knowledge of how to implement CA as evidenced in the following sampled responses:

*Not satisfactory because of limited knowledge (the lecturer) in preparing and implementing CA (Participant 2).*

*I am not satisfied because as a lecturer I don't have enough information about assessment tools (Participant 29).*

#### **5.2.2.7 Lecturers' own continuous assessment implementation practice**

The sub-question number one asked the lecturers' assessment implementation practice. Table 5.9 below presents the lecturers' responses to the practice of CA. As with the previous tables, the responses were ranked in order of highest endorsement to lowest endorsement.

From the Table 5.9, it can be observed that over thirty-one (31) participants tended to agree with twenty-three out of the twenty-seven practice level statements of the questionnaire while all the 51 lecturers agreed with statements that they provided feedback to help students improve (B16). In addition, A good number of participants agreed with the statement that stated that "they encouraged students to engage in effective discussions" (42)

Three statements were endorsed by fifty (50) lecturers. These were statements that related to what lecturers encouraged their students to do during CA implementation such as owning their learning (B18), telling students how they could improve, and the kind of feedback they provided to the students. These three statements focused on the aspects of CA.

The fact that these statements were endorsed by the majority (50) of the lecturers, may suggest that the lecturers were practising CA in their lectures. The endorsement for other statements ranged from thirty-one (31) (*My assessment of student's work is mainly given as marks and grades*) to forty-nine (49) (*I help students find ways of solving problems that they have in their learning*) (B22), and (*I encourage students to see their mistakes as valuable learning opportunities*) (B23).

Generally, the participants tended to indicate that they put into practice various aspects of CA like clarifying learning intentions and criteria for success (B24); encourage students to act as instructional resources for one another (B19); give feedback that helps students to improve (B16); encourage students to engage in effective discussions and other learning tasks to show their understanding of the concepts and ideas (B42); give opportunities for my students to assess each other's work (B20), and encourage my students to assess their own work (B30).

These findings corroborated well with participants response to Question C12 (see appendix A) which asked lecturers to indicate how they often allowed their students to practice the key strategies of CA during micro-teaching or peer-teaching whose findings are presented in Table 5.10.

**Table 5.9: Lecturers' practice of continuous assessment in teacher training**

Item	Statement	Agree	Disagree
		n	n
B16	B16 I give feedback that helps students to improve	51	0
B42	I encourage students to engage in effective discussions and other learning tasks to show their understanding of concepts and ideas	51	0
B18	I encourage my students to own their learning	51	0
B21	I often talk to students about how they can improve their learning	50	1
B29	My feedback to student assessment focuses more on what was expected and how to improve	50	1
B22	I help students find ways of solving problems that they have in their learning	50	1
B23	I encourage students to see their mistakes as valuable learning opportunities	49	2
B19	I encourage students to act as instructional resources for one another	49	2
B24	I talk about the learning intentions and criteria for success for each lesson	48	3
B25	I tell students how well they have performed compared with their own earlier performance	48	3
B28	I use student errors to plan for the next lesson	48	3

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B30	I encourage my students to assess their own work	48	3
B32	I help students to understand the learning purposes of each lesson or series of lessons	48	3
B20	I give opportunities for my students to assess each other's work	47	4
B44	I use continuous assessment for both formative and summative purposes	46	5
B31	My assessments are motivated by whether my students know, understand or can do key sections of the curriculum	43	8
B15	My assessments are motivated by whether my students know, understand or can do key sections of the curriculum	42	9
B33	My assessment is mainly about what students know, understand and can do	41	10
B17	Comparing students' performances with other students is not central to my assessments	38	13
B35	I help students plan the next steps in their learning	37	14
B34	I use questions mainly so that my students give me reasons and explanations	36	15
B41	I give students a chance to practice how to implement continuous assessment	35	16
B38	My assessment of student's work is mainly given as marks and grades	35	16
B14	What I teach on the daily basis is more influenced by the curriculum than how well my students performed in the last lesson	31	20
B40	I tell students how well they have done compared to others in the class	27	24

B37	Assessment of student's work is mainly in the form of comments	23	28
B39	I use questions mainly to get factual knowledge from my students	22	29

**Table 5.10: How often lecturers allowed students to practice aspects of continuous assessment**

Continuous assessment strategies	Regularly	Often	Seldom	Not at all
	n	n	n	n
Peer assessment	13	19	17	1
Self-assessment	16	13	19	2
Creating an opportunity for pupils to ask questions	36	10	4	0
Encourage to consider fellow pupils as a source of knowledge	24	19	6	1
Clarify and share learning intentions and criteria for success	21	24	4	1
Provide feedback that is helpful	39	11	0	0

### **5.2.3 Content and pedagogical strategies: how do the current content and pedagogical strategies in primary teacher education programmes support CA implementation?**

The second sub-question sought to determine how the content taught and the pedagogical strategies in primary teacher education programmes supported CA implementation.

In order to validate the lecturers' responses to the questionnaires, lecture room observations were carried out with twenty-two (22) out of the fifty-eight (58) participants. Data was collected from the lecturers who were available and consented to have their lectures observed. An

action checklist was used to collect the observation data. Only one observation was made for each participating lecturer (see chapter 4)

The findings from the observations of the twenty-two lecturers suggested that the lecturers did not do what they had endorsed on the questionnaire in relation to CA implementation. This was contrary to the findings of the questionnaire data which suggested that lecturers were aware of, and practiced all the aspects of CA in their classrooms. Aspects of CA (see chapter 3) such as encouraging students to own their learning; considering fellow students as sources of knowledge; providing feedback that focused on what the lecturer expected, and how to improve the CA implementation were rarely incorporated in the lectures.

Generally, the lecturers who were observed teaching displayed knowledge of general teaching methods. The lecturers were able to introduce the lectures but did not deliberately mention the success criteria for the lesson let alone the criteria for success (how the students would know if they have learned the content). Essentially, the majority of the lecturers used the question and answer teaching method. On the other hand, most of the lecturers observed used the participatory approaches wherein the lecturer gave questions to the pre-service teachers to be discussed either in pairs or groups. After the discussions, the groups were then asked to present their responses during plenary. The presentations were done in such a way that each group member had a point to contribute in turn. After the presentations, the rest of the class asked questions to the presenters for clarification, and to get an in-depth understanding of the content taught. Thereafter, the lecturer would then ask the class to clap hands for the group. In one instance, the lecturer asked the students to assess the groups' presentation out of ten (10) points although the basis for the assessment was not provided. This was the only instance where the lecturer tried to conduct peer assessment, and the students practised assessing the presentation. However, no criteria for assessing the presentation was provided to the students as a guideline.

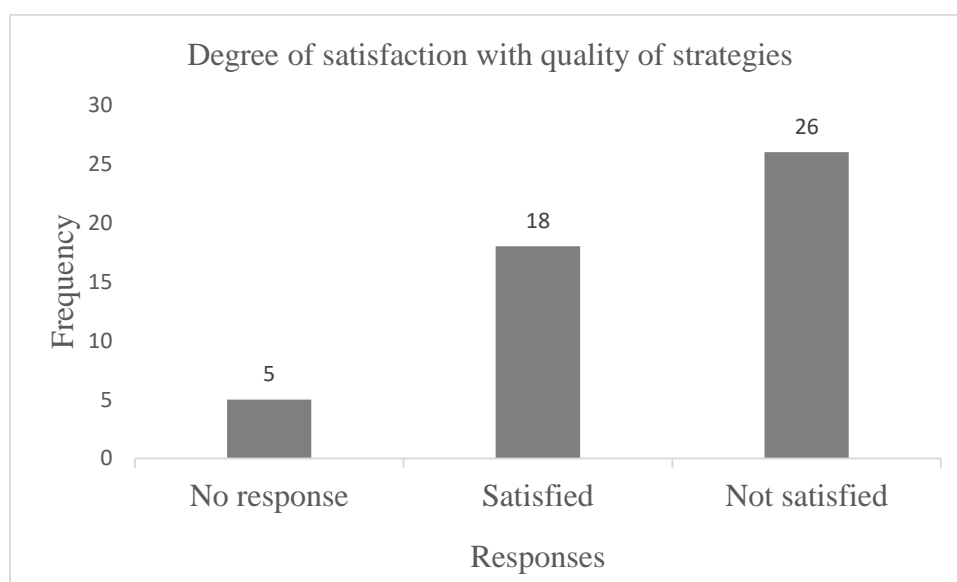
Although the researcher observed one lecture for each of the twenty-two lecturers, in relation to the research sub-question, it can be said that the current content and pedagogical strategies for CA in pre-service primary teacher education programmes are not enough to support CA implementation. The pedagogical strategies that the lecturers used were similar to what a high school teacher would use but were not relevant to the initial teacher education programme of which aim was to enhance knowledge and skills acquisition and transfer into the primary school settings. In addition, the lecturers observed did not pay any attention to CA implementation which was one of the core aspects of PCAR. Although the lecturers were familiar with the requirements of both PCAR and IPTE curricula, they failed to transfer this



knowledge into their classrooms so that they could re-model their teacher students who were to teach in the primary schools.

#### 5.2.4 Improving instructional strategies TTC lecturers use when preparing primary school teachers for CA

The third research sub-question sought to determine how the instructional strategies lecturers used when preparing pre-service teachers for CA could be improved. Accordingly, the need for improved instructional strategies lecturers used when preparing pre-service teachers for CA implementation was highlighted. In the main, the lecturers showed some dissatisfaction with their current practices. Figure 5.3 presents the level of lecturers' (dis)satisfaction with the instructional strategies they used as they prepared pre-service teachers for CA implementation.



**Figure 5.3: Lecturers' level of (dis)satisfaction with quality of strategies**

As can be observed in Figure 5.3, eighteen of the participants indicated that they were satisfied while twenty-six indicated that they were not satisfied with the quality of the strategies they used as they prepared the teachers for effective CA implementation. However, five did not respond to the question.

The reasons given by the lecturers who indicated that they were satisfied with the quality of strategies they used for the implementation of CA were that the lecturers believed that *their instructional strategies were of good quality, varied, practically oriented and learner centred* as presented in the sampled responses.

*The strategies are of good quality because they is variety and most often... high level questions are asked which require application, synthesis and evaluation (Participant 11).*

*They do hands-on activities on assessment which will help them remember how to do assessment. Student teachers have chance to practice assessing learners at the demonstration school as real life situation (Participant 12).*

*In the main, I am satisfied with the quality of the strategies because most of the strategies are learner centred in nature so learners understand them (Participant 27).*

*I am very much satisfied with quality of the strategies we use for effective CA implementation. We use different ways and methods which help our students get engaged (sic) and most assessments are designed on our course learning objectives and teaching goals (Participant 37).*

On the other hand, the reasons given by the lecturers who were not satisfied with the quality of the teaching and learning strategies they used when preparing pre-service teachers for effective CA implementation *were lack of an agreed teaching approach; lack of allowing the pre-service teachers to practice the skills of CA implementation; lack of in-depth teaching of issues about CA; lack of adequate knowledge by the lecturers about CA; need for training in the strategies; lack of support given to the pre-service teachers on CA implementation during the college-based training; little content coverage and presence of a gap between what is done in college and what was expected of the pre-service teachers on the ground.* Further evidence is shown in the responses below.

*Not satisfactory, it is like there is no strategies put in place for the college rather (sic) for individual lecturers which brings variations (Participant 5).*

*Not satisfied, as there is very little practice on their part. Hence, [there was] need to introduce the topic on continuous assessment in all learning areas. Coverage of CA is very minimal only in Foundation Studies and an emphasis during teaching practice is not enough (Participant 24).*

*I am not very satisfied and students are not taught in depth about CA procedures (Participant 25).*

*I am not fully satisfied; it is because I don't think I have enough knowledge about the assessment items or what it is I should do in class for the learners to be assessed continually (Participant 29).*

*There is need for more training on the strategies. Most of the pre-service teachers lack the proper skills to implement this aspect (Participant 30).*

*Not satisfied at all; little effort is directed towards preparing pre-service teacher in the area of formulating CA items as the (assessment) schemes mostly do not provide for such (Participant 31).*

*Not really; there is less support to them while in college on the issue at hand (Participant 38).*

*Not satisfied; very little is taught to them. The curriculum must embrace this topic at all levels (Participant 41).*

*Not very satisfied; there seems to be a gap between college activities and the actual practice on the ground (Participant 49)*

The reasons given by the lecturers for their dissatisfaction with the strategies they used when preparing the school teachers for for CA implementation suggested that they (lecturers) had some archetypal knowledge of the preferred teaching strategies but were not implementing them due to some constraints which might have been systematic or systemic.

This was echoed in response to the question which sought to find out if the amount of formal interaction during the teaching and learning processes between lecturers and students was adequate in providing an opportunity for pre-service teachers to be familiar with the key aspects of CA implementation. In this respect, twenty lecturers indicated that the amount of interaction between them and students in the lecture rooms provided an opportunity for the pre-service teachers to be familiar with key aspects of CA implementation. Further reasons given to this effect were that *CA was also a mode of assessment for the courses that they studied at the college*. In addition, the lecturers said that *the pre-service teachers practised implementing CA during peer teaching* and that *CA was a topic in the initial teacher education (IPTE) curriculum*. The responses below further illustrate this.

*Lecturer-student interaction is adequate. First mode of assessment at TTC is both continuous and summative. There is a topic in the Foundation Studies about assessment. After assessments, learners are instantly given feedback (Participant 11).*

*Yes, CA is a topic on its own in Foundation Studies, and it is a mode of assessment conducted at the college (Participant 23).*

*No, but at least they just have a rough idea of CA as it is also something that it is done on them. Interaction between lecturers and students focuses on some other topics not really to do with CA (Participant 25).*

*Very little interaction partly familiar... this is due to time factor as this process requires enough time for planning (Participant 26).*

*Yes... because their assessments, at the college level as we are interacting with them, take the form of CA (Participant 27).*

*The interaction between the lecturers and students is enough for the students to be familiar with the key aspects of CA implementation... and in most lessons learners are asked to do peer teaching so that they can practice to teach what they have learned (Participant 37).*

However, 23 of the respondents (almost half) indicated that the amount of interaction between lecturers and students did not provide an opportunity for pre-service teachers to be familiar with key aspects of CA implementation. The reasons given for that observation included *overloaded curriculum; inadequate time that CA was only taught in Foundation Studies, and was being emphasised during pre-service teachers' orientation prior to teaching practice, hence more theoretical than practical.* The responses below explain this thinking.

*No, the curriculum is overloaded hence focus is on teaching content which is also exam oriented (Participant 15).*

*Not very much; they need to be given ample time in order to familiarise with the process (Participant 17).*

*The amount of interaction is not enough for the learners to be familiar with the key aspects of CA implementation... and for the learners to be familiar with key aspects, they require a lot of time and a lot of interaction (Participant 22).*

*No, the reason above applies... the interaction is limited- only in Foundation Studies, and during teaching practice orientation. In most cases, CA is only mentioned in Foundation Studies (Participant 24).*

*No, but at least they just have a rough idea of CA as it is also something that is done on them. Interaction between lecturers and students focuses on some other issues not really to do with continuous assessment (Participant 25).*

*Very little interaction partly familiar. This is due to time factor as this process requires enough time for planning (Participant 26).*

*I think there isn't much interaction because there is a lot of theory work to be covered on other topics as well (Participant 39).*

*Moderate interaction is done... this is so due to pressure of work to attend to other classes (Participant 40).*

*Not much... the aim is always to cover the curriculum as there is more work to cover in order to prepare students for the national examinations (Participant 46).*

Only eight lecturers did not provide an explanation for their responses. In addition, lecturers indicated that they were able to demonstrate to pre-service teachers various aspects of CA such as creation of an opportunity for learners to ask questions, self-assessment, and peer teaching and considering other learners in the classroom as sources of knowledge when preparing them for CA implementation. Different lecturers chose different aspects of CA they wanted to demonstrate to pre-service teachers during instruction. Generally, the lecturers' responses appeared to indicate that they were able to demonstrate almost all the aspects of CA that were asked in the question. However, this was not evident in any of the lectures so far observed.

The findings to the above sub-question suggested that the pedagogical approaches that the lecturers used were less satisfactory given the many limitations identified by the lecturers themselves. In fact, the majority of the lecturers displayed lack of satisfaction with their own practices and points to nothing than the ineffectiveness of their pedagogical approaches.

As a way of seeking a solution to the CA implementation dilemmas identified by the lecturers, they were asked what they thought needed to change in the way they prepared pre-service teachers for CA. To this end, three suggestions were provided and have been presented according to their categories. In the first place, the participants suggested *increasing the time for college-based training*. This is captured in the responses below.

*By extending the time they stay in college to allow for more time for these learners to stay in college so that they can be fully baked [sic] in all spheres including the CA aspect (Participant 3).*

*Needed to have these students in college for two years so that they are expected to [master] all the areas that are to make them good teachers... the aim of the training is to translate theory into practice, and when this inadequate the effectiveness of it can't*

*be there- It should not be a matter of covering the syllabus because this might be understood as just covering their brains (Participant 7).*

*I would have given much time on teaching CA and let students have time for practising the preparation (writing) of items for CA... to improve the understanding of the concept on CA in students (Participant 10).*

*Having enough time with the students discussing several topics on how/what or a variety of continuous assessment activities... to make students understand very well these assessment activities... because its only when one has understood a thing well that he/she will be able to implement it. So if students are to implement the assessment activities well, then they must understand very well (Participant 29).*

*If only we could be given enough time for training of student in college as the content to be covered does not correspond to the time given for in-college training. Most of the topics students have to study are not well covered because there is no enough time to study them in ful. (Participant 30).*

*Dedicate enough time to the teaching of CA...since time is a problem (Participant 41).*

*Pre-service teachers need more time to conduct CA, and teachers should specialise in order to handle that CA effectively (Participant 28).*

Secondly, the participants suggested that the lecturers were to provide pre-service teachers with the *opportunities to practice CA implementation* as evidenced in the following sampled responses:

*Provide enough resources and time...and there should be more practice than theory to increase student level of understanding and practice (Participant 21)*

*Do more of practical than theory... since teaching is an art not to be "well said" but to be "well done"... (Participant 34).*

*Creating more opportunities for student teachers to practice the process with real learners so that they gain more confidence on implementing assessment activities while teaching (Participant 35).*

*Pre-service teachers should be given the chance to administer CA at the demonstration primary school and other surrounding primary schools. For the pre-*

*service teachers to experience how to prepare and administer continuous assessment so that if they face problems, they should be assisted while in college (Participant 27).*

*Include this in the internal teaching practice and assess how student teachers are implementing it during micro-teaching to give them an insight of the fieldwork (Participant 5).*

*To include the element of hands-on activity in developing the tasks because presently there is no room for the pre-service teachers to practice developing these items/tasks (Participant 8).*

*I would consider including it in the teaching practice demonstrations so that they get used to the system because I view CA as central to the teaching and learning processes (Participant 9).*

*Give them enough time to assess the learners... and they should have more practice on how to assess learners while keeping records of assessment starting from year one. For the student teachers to get used so that when they are posted to various schools... they should do the same (Participant 42).*

The third area that needed change was on the *delivery of the content of CA* as reflected in the sampled responses below.

*Teach them thoroughly well... Student-teachers should be well equipped with the information that will help them to handle CA easily (Participant 41).*

*Assessment as a topic should be discussed in every subject, in details not only in foundations... Assessment is done in every subject and every subject must vary the procedure of assessing the learners (Participant 51).*

*Add more practical activities on CA in the syllabus. Practical activities are more helpful than theoretical work (Participant 49).*

*They need to have a lot of practice to familiarise the students (Participant 50).*

*Reduce the number of students to lecturer which is very high, and provide clear guidelines where the college would certify their students... and quality will improve, and students will come out quite knowledgeable on CA (Participant 46).*

The suggestions that lecturers made on what they would change in the way they prepared pre-service teachers for CA suggested increasing the time the pre-service teachers received

college-based instruction to enhance CA implementation. This would in turn enable the the pre-service teachers practice what they learned through practicing CA while in the TTC and later go out to the schools fully armed in CA implementation. The findings from this sub-question contributed to the design and development of prototype number one (1) of the strategic pedagogy (see chapter 6).

### **5.3 Discussion of the findings**

The section that follows presents the discussion of the findings according to each research sub-question

#### **5.3.1 Lecturers' knowledge, attitude and practice of continuous assessment**

The findings to the above sub-question appeared to suggest that the lecturers possessed an adequate amount of the theoretical knowledge on CA, and appeared to have a positive attitude towards CA but lacked the ability to translate it into practice in their instructional approaches. The baseline findings were equally supported by earlier studies (Selemani-Mbewe, 2002). This finding could explain the reasons primary school teachers experienced challenges in implementing the curriculum in general and CA in particular (Kalande 2006; Lowe, 2008; Mhango 2008; Susuwele–Banda, 2005) after the introduction of PCAR. Similar findings where teachers displayed possession of knowledge about CA have been found in other countries (Alufohai & Akinlosotu, 2016). Although the study findings generally suggested that the lecturers were knowledgeable about CA, these current finding contradict earlier findings as teachers in those studies appeared to lack such knowledge (Matiti, 2009, Kapambwe, 2010, Matshidiso, 2007, Reyneke, 2008). In addition, similar findings where teachers had positive attitudes towards CA practices have been observed across Africa (Alufohai & Akinlosotu, 2016; Ezewu, 1982; Hayford, 2007; Kamangira, 2003; Nneji, Fatade, Awofala & Awofala, 2012). However, a negative attitude towards CA due to lack of knowledge on how to implement it has also been noted (Kapambwe, 2010; Matiti, 2009; Matshidiso, 2007; Reyneke, 2008; Warnich, 2008). It would appear that attitudes and practices of CA largely depended upon possession of adequate knowledge about CA.

#### **5.3.2 Current content and pedagogical strategies**

The responses to this sub-question suggest that the current content and pedagogical strategies that lecturers used in training school teachers appeared inadequate to support CA implementation in the primary schools. The instructional strategies were more theoretical than practical to enhance knowledge and skills transfer for CA implementation in the classrooms. The lecture room observations appeared not to focus on the core aspects of the PCAR curriculum. This was, however, contrary to what the lecturers articulated regarding their



assessment practices (see section 5.2.2.7). These findings corroborated with the findings where TTC lecturers in Mozambique did not implement learner centred approaches despite the fact that they were able to articulate it (Guro & Weber, 2010). Furthermore, the lecturers' levels of dissatisfaction with their own pedagogical approaches when preparing school teachers for CA (see section 5.3.4) and the suggestions they provided (see section 5.3.4.3), point to the fact that the content and instructional pedagogies they used were possibly ineffective. In addition, the pedagogical strategies that lecturers demonstrated during the observations, could not effectively support CA implementation in the primary schools. This holds true given that little opportunity was provided for the pre-service teachers to practice how to implement aspects of CA while on training. The reason for this trend was that there was inadequate time for practicals and/or that some lecturers lacked confidence on how they could support the pre-service teachers with appropriate pedagogies for CA implementation.

Moreover, these findings suggested that the majority of the lecturers were not satisfied with the pedagogical approaches they used to enhance CA implementation, and the amount of interaction between the lecturers and student-teachers during training programme was wanting. Nevertheless, the amount of interaction between lecturers and student-teachers during instruction can provide an opportunity for the students to be familiar with key aspects of CA implementation. It is envisaged that, the more the pre-service teachers are involved with issues of CA, the more they become familiar with what they will be expected to do when in the primary school contexts. This might explain the existence of the gap between theory and practice (Carr, 2006) of CA in the schools.

In the main, the reasons responsible for the lecturers' dissatisfaction with their own preparation of the school teachers may be due to the limited time for college-based instruction; large class sizes; lack of knowledge on how they could teach pre-service teachers; how they could implement CA and inadequate resource availability. These challenges appeared to affect effective CA implementation (Matiti, 2009; Kapambwe, 2010; Matshidiso, 2007; Reyneke, 2008). Due to the limited time for college-based instruction, the lecturers did not provide any opportunity for the pre-service teachers to pre-practice the skills needed for CA implementation while in the TTCs. In other words, the lecturers rushed through their presentation to cover the curriculum just to make sure that their student-teachers were ready for MANEB examinations. These findings concur with earlier research findings for primary school teachers' inability to use active learning pedagogies in Malawi (see Kamwendo, 2010). This scenario might also explain the lack of effective CA implementation by primary school teachers as they just follow the rubric that was set by their trainers. Simply put, the way pre-service teachers were prepared for CA implementation might as well reflect the way these

teachers will implement CA in the primary schools. It is generally agreed that teaching, and nursing are practice disciplines that are anchored in role modelling. They both call for integrating theory with practice in the way their lecturers prepared them. However, it would appear that nursing students are exposed to more practice than are pre-service teachers. It is therefore, imperative for the lecturers in education to use strategies that would not only foster theoretical knowledge about CA implementation but also incorporate practice to enhance transfer of the knowledge and skills.

### **5.3.3 Instructional strategies**

This section presents a discussion on how the instructional strategies that lecturers used when preparing pre-service teachers for CA could be improved.

From the lecturers' responses, which suggested that the majority were dissatisfied with the strategies they used when training student-teachers for effective CA implementation, (see figure 5.3); it was imperative to find out how the situation could be improved. This feedback was aimed at ensuring how teacher education could make a difference (Korthagen, 2010) in the preparation of the pre-service teachers for effective CA implementation. Responses to this question were considered beneficial as they set the stage for the design and development of prototype one of the intervention. In response to this question, the majority of the lecturers and the SMEs indicated that there was need to improve teacher preparation for CA by increasing the length of time for the college-based phase of the training programme to allow enough pedagogical content coverage of aspects of CA. The suggestions that the participants made as a way of improving teacher preparation for CA implementation demonstrated that lecturers were aware of the appropriate pedagogies but for some reasons they did not put them into practice.

The feedback obtained from the baseline survey necessitated the design, development and formative evaluation of a strategic pedagogy as an intervention and innovation. The first prototype (prototype one) was designed and developed taking into consideration the suggestions that the lecturers provided for improving pre-service teacher preparation.

## **5.4 Conclusion**

The chapter has presented the baseline-survey's findings to research sub-questions 1, 2, and 3. Nonetheless, detailed findings of sub-question three (3) are presented in chapter 6 where an innovation in the form of a strategic pedagogy is designed, developed and evaluated. The research findings to the research sub-question one suggested that, while the lecturers appeared knowledgeable and had positive attitudes towards CA, their practice was minimal.

This finding was corroborated in the strategies that they used when preparing pre-service teachers for CA during the lecture room observations. The majority of the lecturer room observations showed that the strategies used did not incorporate aspects of CA. Due to some inadequacies, the lecturers indicated that they were dissatisfied with the procedures they used when teaching pre-service teachers for CA. This necessitated for an exploration of how the situation could best be improved. The suggestions that came from the different participants and stakeholders provided the leeway for improving the preparation of these pre-service teachers for CA implementation. These then contributed towards the formulation of the design guidelines for the intervention.

The next chapter presents the design, development and formative evaluation of a strategic pedagogy (SP) as an innovation and intervention which responds to research sub-question number four (4) guided by the quality criteria for “education design research” constructs such as relevance, consistence, practicality and effectiveness of the strategic pedagogy (SP).

## CHAPTER 6

### DESIGN, DEVELOPMENT AND EVALUATION OF A STRATEGIC PEDAGOGY

#### 6.1 Introduction

This chapter presents the design, development and formative evaluation feedback for the intervention phase of the study and addresses research sub-questions three (3) “How can the instructional strategies that lecturers use when preparing pre-service teachers for continuous assessment be improved?” and four (4) “How does the use of a strategic pedagogy during instruction impact on the lecturers’ instructional practices and pre-service teachers’ CA implementation in the schools?” as described in Chapter one. The feedback obtained in response to research sub-question three (see chapter 5), and the extensive literature review on effective teaching strategies to identify an instructional approach that corroborated with the baseline-survey’s findings (see section 6.2 and 6.3) resulted in the design and development, and formative evaluation of an instructional strategy as an intervention which was informed by Deliberate Practice (DP) theoretical framework (Ericsson, 1993), and was aligned with Direct Instruction (DI) or explicit instruction (Rosenshine, 1995) which took the form of analysis, design, development, implement and evaluate (ADDIE) model (Aldoobie, 2015).

In order to ensure that the strategic pedagogy was commensurate with the quality criteria of design constructs of consistence, relevance, practicality, and effectiveness, the strategic pedagogy was designed, developed and tried out iteratively and collaboratively with the lecturers as participants and the SMEs as stakeholders (Dick, Carey & Carey, 2009).

This chapter presents the design, development and formative evaluations of the three prototypes through iterative cycles commensurate with design research. In order to design the prototypes, a theoretical basis was sought in the literature and therefore a description is first given of deliberate practice (DP) as the theoretical framework and Direct/explicit Instruction (DI) as the instructional strategy that informed the strategic pedagogy (section 6.2 and 6.3 respectively). The design guidelines of the strategic pedagogy are presented in section (6.4). This is followed by a description of the design and development of the first prototype which aimed to establish its relevance and has been presented in Section 6.5. Section 6.6 presents formative evaluation and feedback of prototype one. The design and development of the Strategic pedagogical Intervention (SPI) prototype two testing relevance and practicality has been presented in section 6.7. This is followed by the try-out of SPI prototype two with selected evaluators in section 6.8. The design, development and formative evaluation and feedback of the SPI prototype three is presented in section 6.9, and is followed by section 6.10 which presents the implementation, summative evaluation and feedback of SPI prototype three

evaluating its expected effectiveness. Finally, section 6.11 presents the conclusion of the chapter.

The section which follows presents the Deliberate Practice as the theoretical framework of the strategic pedagogy. The strategic pedagogy responded to the instructional process in the conceptual framework (see chapter 3).

## **6.2 Theoretical framework for the strategic pedagogy**

As suggested by Nieveen and Folmer (2013) baseline/needs assessment in design research provides insights into the development of the first prototype. In this study, insights into how pre-service teachers were being prepared at the TTC for CA implementation in the primary schools (see chapter 5) led to the design and development of prototype one. The needs assessment was also useful in identifying desired tentative features of the strategic pedagogy (SP) as an intervention and how to develop the features.

The literature review assisted in situating the suggestions on how the teacher preparation for CA could be made. The baseline survey findings indicated a certain degree of dissatisfaction with the instructional strategies the lecturers deployed in the instructional process in the way they prepared pre-service teachers for CA implementation. The instructional practices that the lecturers in TTCs used was more theoretical than practical with little or no opportunity for the student-teachers to practice what they had learned on CA implementation. There was an expressed need to improve the instructional procedures that the lecturers used to accommodate *demonstration* of what they taught as well as providing an opportunity for student-teachers to *practice* what they had learned.

An extensive literature search was carried out seeking for a theoretical framework of an instructional approach that would advocate for the inclusion of *demonstration* and *practice*. This literature search yielded *Deliberate Practice* (DP) theoretical framework. This theoretical framework does not only include demonstration and practice but also aims to improve performance.

The DP theory (Ericcson et al., 1993; Ericcson, 2002; 2003; 2008; Patel, Kaufman, & Magder, 1996) informed the design and development of the strategic pedagogic intervention (SPI). Hambrick et al., (2013, p. 2) quoting Ericcson et al., (1993) defined the DP as “engagement in highly structured activities that are created specifically to improve performance in a domain through immediate feedback, that require a high level of concentration, and that are not inherently enjoyable.” In their research on how people learn and become experts in performing complex activities, Ericcson et al., (1993), who conducted their study in a Music Academy in

Berlin with violin students, showed the role of DP in the acquisition of expert performance. The researchers concluded that success in those activities was due to the fact that they invested a considerable amount of time practising those complex activities. When they applied the DP framework to several domains, Ericsson et al. (1993) concluded that “high levels of deliberate practice are necessary to attain expert level performance” (p. 392). According to Ericsson et al., there are four characteristics of DP for it to be effective. Firstly, the individual must be motivated to improve current levels of performance. Secondly, the DP should be based on what the individual currently knows so that he/she correctly and easily understands the task after a brief period of instruction. Thirdly, the individual should obtain immediate and informative feedback and knowledge of how he/she is performing. Finally, the individual should do the same or similar tasks over and over again (Ericsson, et al., 1993).

The basic assumption with the DP is that “the amount of time an individual is engaged in DP activities is monotonically related to that individual's acquired performance” (Anderson, 1982; Newell & Rosenbloom, 1981). This implied that improvement in performance was directly dependent upon the amount of practice. In other words, the more an individual practices a particular skill under the supervision of a teacher or coach who provides immediate and informative feedback, the more the improvement in the performance of the skill. Performance improvement comes into existence due to the immediate and informative feedback given by the teacher. Deliberate practice includes activities that are performed with the sole aim to improve an individual's existing levels of performance. It follows from this assumption that individuals should attempt to make best use of the amount of time they spend on DP to reach expert performance.

Based on the characteristics of DP presented above, it can be observed that performance improvement is both individualistic and supported activity. The individual must have a certain level of motivation; should have sound knowledge of what is to be practised, and should repeat the same tasks over and over again for period of time. In addition, the individual who engages in DP should be given immediate and informative feedback on how he or she is performing.

Although the framework has been contested for its lack of candid explanations, nearly in all or even most of the variances in performance (see Hambrick et.al, 2014; Macnamara et al., 2016), there is ample evidence (see Ericsson, 2006; Coughlan, et al., 2014) that DP plays an important role in improving performance.

After reviewing the DP theoretical framework on performance improvement, it was felt that pre-service teachers' preparation for CA implementation should be based on deliberate practice.

Arising from the theory of DP, it was felt that teacher preparation matters in enhancing pre-service teachers' ability to implement CA in the primary schools. To achieve this, TTC lecturers should strive to motivate their students on how to implement CA through their own practices. They are also supposed to provide the pre-service teachers with adequate knowledge of CA which they should practice. In addition, the lecturers should provide immediate and informative feedback regarding the pre-service teachers' performance on CA implementation. Finally, the pre-service teachers should be given a chance to repeat similar CA tasks. In order to succeed, the TTC lecturers were to deliberately enact the instructional phases before the pre-service teachers. The section that follows describes direct instruction as the instructional procedure that aligns with the DP theoretical framework.

### **6.3 In search for a strategy informing the Strategic Pedagogical Intervention**

In order to come up with an instructional approach relevant for DP, another literature search for effective instructional strategies was carried out. The second theoretical contribution to designing the prototype was informed by the Direct Instruction (DI).

Scholars have developed models of instruction aimed at improving classroom learning. For example, Joyce, Weil and Calhoun (2003) described four categories of models of instruction namely: behavioural systems, information processing, personal development, and social interaction as a way of summarising the vast amount of instructional methods. Differences do exist in each of these teaching models depending on the kind of attribute the learning process aimed at. The existence of the different models is also due to variances in the interpretations of concepts and principles of teaching and learning that is out there. Despite these variances, all models are aimed at achieving quality instruction. Pershows (1994) identifies four conditions a good theory of instruction should satisfy: clarity, practice, feedback and motivation. He states that the content must be clear to the learners. For example, what is to be learned, how well it must be learned and what the learners must be doing to demonstrate their performance are very critical in these processes. In order to achieve this, it calls for clear specification of the desired outcomes/objectives to be achieved. The second factor is that the learners must be provided with enough *practice* of what they are learning. In addition, the learners must be provided with *feedback*. This is in line with the core assumptions of the DP pedagogy.

Precisely, provision of appropriate feedback that is not only timely but also informative is necessary. Giving feedback is one of the important aspects during the teaching and learning processes as it not only promotes the acquisition of material learned but also improves performance. Thus, Hattie (1999, p. 9) suggests that feedback involves "providing information

on how and why the child understands and misunderstands, and what directions the student must take to improve,” and this also known as informative feedback. The last factor is that learners must be given *reinforcement* that motivates them to forge ahead. When all these conditions are satisfied, quality instruction will ensue. The whole idea behind provision of quality instruction is that students succeed at academic tasks (Darling-Hammond, 2000). This scenario suggests that, if pre-service teachers are to effectively implement CA in the schools, they need to be provided with quality instruction during training that incorporates practice.

Another instructional aspect that has also been deemed important in teacher education is *modelling*. Loughran, Korthagen, and Russell (2012) quoting Segall, (2002) observed that analysing the experiences of Social Science studies methodology courses at a Canadian university emphasised the need to “contextualise theory within practice, and practice within theory, hence modelling pedagogical episodes that foster such challenges.” However, such modelling has been observed not to be common (Loughran, et al., 2012). The absence of modelling among lecturers before their student-teachers on best practices in implementing CA; lack of opportunities to afford student-teachers space for CA practices and lack of feedback/evaluation regarding student-teachers performance, were also noted during the classroom observations and the FGDs in this study.

The strategic pedagogy which the study proposed emphasises the enactment of the factors responsible for quality instruction. It also takes on board the findings of the questionnaire data and the SMEs interviews on how teacher preparation for CA implementation ought to have been done. Over all, the strategic pedagogy was aligned with the Direct or explicit Instruction (DI) model as it appeared to take into account the lecturers and SMEs expectations of an instructional strategy that could be used in the TTCs.

Direct Instruction (DI) is a step by step instruction during the teaching and learning process with overt steps of presentation, practice, provision of feedback; reinforcement and monitoring and evaluation (Huitt et al., 2009). Nieman and Monyai (2006, p. 107) describe direct instruction as a “teaching strategy that is used to present very specific information or to demonstrate a certain skill to the class. It usually takes the form of a short lecture interspersed with questions or activities; direct explanations and/or demonstrations.” This teaching strategy is also known as active teaching, mastery teaching and/or explicit instruction. This teaching strategy has been found to be suitable when a teacher wants to give background information through demonstrating or narrating the story (Nieman & Monyai, 2006). Since teachers and students usually get involved during the instructional processes (Magliaro, et al., 2005), then DI becomes essential because it provides basic skills and information which act as the foundation for all other types of learning (Nieman & Monyai, 2006). Direct instruction is, in this



case, in line with the social learning theory which states that the bulk of what people learn is through modelling (Arends, 1991).

Within the DI processes, there is active teacher student interaction through questions, answers and explanation and provision of immediate feedback (Magliaro, et al., 2005; Rosenshine, 1995). During the teaching and learning processes, the teacher informs the learners what the lesson will cover, and how it will be covered (Rosenshine, 1995). Teachers are thus expected to clearly state what the lesson is all about by specifying its objectives; clearly indicating the significance of the lesson, and how success will be measured (criteria for success). To enhance understanding, a teacher gives many examples as well as demonstrating what he/she is teaching to help learners have a concrete idea of what they are learning. Evaluation of the teaching and learning processes takes the centre stage, and may occur as diagnostic, formative and summative evaluation (Brophy & Good, 1996). The usefulness of DI has been observed when measuring student learning using standardised tests (Magliaro, Lockee, & Burton, 2005; Rosenshine, 1995). The basic components of DI model are presented in Figure 6.1.

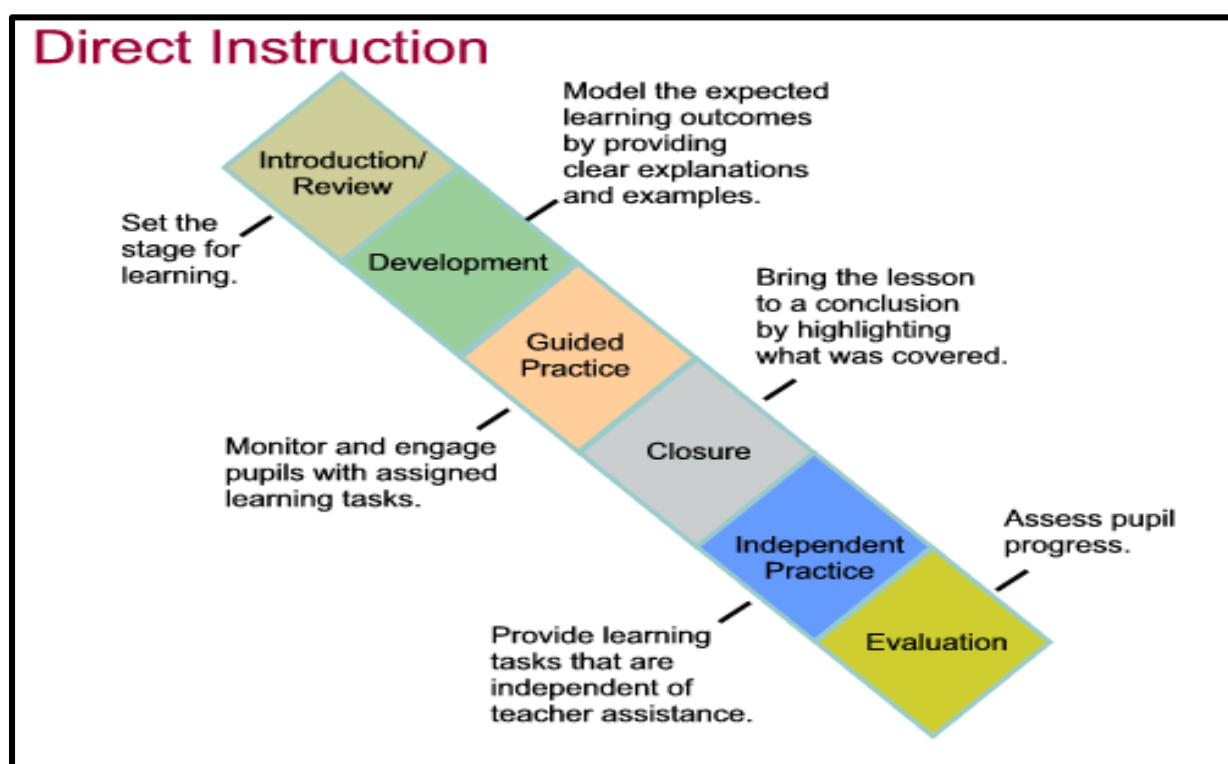


Figure 6.1: General model of direct instruction (Source: Huitt, Monetti and Hummel 2009, p.4).

As can be seen in the Figure 6.1, DI comprises an introduction which ideally provides the setting for the learning; development which models the expected learning outcomes by providing clear explanations and examples of the lesson; guided practice aimed at monitoring and engaging pupils with assigned tasks to determine and support understanding of the content; lesson closure which consolidates what the lesson has thus far covered. Lesson closure is then followed by individual learner activities without teacher guidance (unguided practice) and finally there is an assessment of learner understanding of the lesson through lesson evaluation.

The general model of DI consists of four categories of events of instruction namely *presentation* which may include review of previous work and relate it to the current lesson; an explanation of the current lesson's importance or relevance; actual explanation of issues covered in the lesson, as well as probing and responding to questions. The second phase is practice which can take the form of either guided or independent practice and followed by periodic review. The third phase is *assessment and evaluation* which can take the form of formative and summative evaluation. Formative evaluation is an on-going process to determine if the goals and objectives of the lesson are being achieved; while summative evaluation occurs at the end of the instruction to determine if the goals and objectives of the lesson have been achieved. The last phase is monitoring and feedback (Huitt, Monetti & Hummel, 2009).

During the presentation stage, the teacher may review what was done before; state what the day's lesson is all about; explain the importance of learning the lesson; present the lesson content by explaining with relevant examples and non-examples; model procedures as well as probing into learners responses and then offer feedback.

Once the content has been presented, the teacher then provides the learners with practice which begins with guided practice followed by unguided practice. During this time, the teacher gives learners tasks to be carried out under his/her guidance and helps learners who are challenged in completing the tasks as expected. The teacher also provides immediate and informative feedback as the activities are being performed. If learners are experiencing difficulties, the teacher can re-teach the lesson content until he/she is satisfied with learners' mastery of the lesson content. The unguided practice can be done independently either as classwork or homework activity. During the guided and unguided practices, the teacher conducts both formative and summative evaluation to determine the learning progress of the learners. The final stage is monitoring and feedback of the whole process to ascertain knowledge and skills acquisition.

Although DI appears to be effective when teaching learners, I feel that adopting it in the pre-service teacher education programmes can enhance knowledge and skills transfer for effective CA implementation. This assertion is also considered important when one takes into consideration how one becomes a primary school teacher, and the structure of the curriculum followed (see chapter 2).

The trend of events in the DI model collaborated well with the desired teaching strategies that both SMEs and the participants advocated for in this study (see chapter 5). Using the DI model, pre-service teachers would be exposed to the methodology of how to conduct and implement CA through modelling, and then practice how to implement it while on the training. In addition, the pre-service teachers will be accorded the necessary support through assessment, evaluation, monitoring and feedback which will eventually enable them not only become familiar with the aspects of CA but also gain confidence in CA implementation.

#### **6.4 Presenting the strategic pedagogy model**

Primary teacher training institutions are charged with the responsibility of preparing teachers for the primary schools. In order for these teachers to discharge their duties effectively, they need to be exposed to the content and pedagogies that are actually use in the schools.

The strategic pedagogy presented was supported by the baseline survey's findings which indicated the need for lecturers to *demonstrate* what they were teaching as well as to allow the pre-service teachers to immediately *practice* what the lecturers taught, and to receive *immediate and informative feedback*. To achieve this, a deliberate change in the pedagogy that lecturers could use as they prepared for pre-service primary school teachers for CA implementation was perceived to take the form of DI. The argument was that since DI enables cognitive coaching and skill instruction, the pre-service teachers would be in a better position to acquire the necessary knowledge and skills that would enable them to implement CA effectively. The strategic pedagogy for a pre-service primary teacher education model was informed by the attributes of the DI model which was aligned with the DP theoretical framework (Ericcson, 1993) while also accommodating the feedback from TTC lecturers and the SMEs on their preferred instructional strategies for CA implementation in the schools (see chapter 5). Among others, the desirable instructional practices in the teacher preparation programmes were said to be the ones that introduced the pre-service teachers to how they could implement CA in the primary schools while in the training. It was also indicated that the lecturers too realised the importance of providing an opportunity for the pre-service teachers to practice CA implementation while in colleges. For these to be achieved, there was need for the lecturers to deliberately model their lessons so that they could allow the student-tecahers to emulate

(see Chipeta & Mannathoko, 1993). In other words the lecturers must “walk the talk” or they must do what they preach.

As indicated earlier, the DI incorporates aspects of modelling, practice, monitoring and evaluation which are essential in knowledge and skills acquisition and transfer, and these equally align with the DP theoretical framework (see section 6.2). Essentially, as the students observe their lecturers demonstrate and switch roles during practice, the students will have all the reasons to perform better. The pre-service teachers will thus be able to acquire the basic CA content knowledge and CA pedagogical knowledge while in the training. Accordingly, there is need for the lecturers to demonstrate how to implement CA right there in the classrooms. Demonstrations, as instructional procedures, have proved to facilitate the acquisition of best teaching practices. For example, Mizrachi et al. (2010, p. 11) while reporting on data from an FGD interviews with participants and stakeholders on the use of DI pedagogies, reported that, “most of the interviewees agreed that watching the demonstrations helped them to put into practice what they were learning in workshops.” From what has been presented this far, it sounds reasonable for pre-service teacher educators to deliberately use a pedagogy that incorporates demonstration, practice and evaluation during the instructional processes. This sounds plausible as it is not possible for the upcoming teachers to use any teaching approaches that were not demonstrated to them by their lectures.

In this study, “strategic pedagogy” is defined as a teaching method or approach which lecturers can deliberately use to enable the pre-service teachers acquire knowledge, skills and dispositions for successful CA implementation. In order to design an effective strategic pedagogy for CA implementation by the student teachers in the schools, its processes have to be based on sound design guidelines as shown below.

### **6.5 The design guidelines for the strategic pedagogy**

The findings from the questionnaire data, the lecture room observations, debriefing sessions, daylong seminar, interviews and literature reviews contributed to the development of tentative guidelines for the strategic pedagogic intervention (SPI) prototype one.

The baseline survey established how teachers were being prepared for effective CA in the primary schools, and identified the need to improve the instructional strategies lecturers used in the TTCs. The baseline survey findings suggested that the lecturers possessed a fair command of the knowledge relevant for CA due to the CPD which the majority of the lecturers went through. The findings also suggested that lecturers were not satisfied with both the approaches and the quality of the strategies they used when teaching student-teachers for CA implementation. In addition, the observations which explored the robustness of the

pedagogies that the lecturers used for knowledge and skills transfer appeared to be less empowering to help them implement CA in the schools. This necessitated the design, development and formative evaluation of the strategic pedagogy as an intervention (SPI).

The SPI had to be designed and developed in such a way that its focus was to enhance knowledge of CA as well as skills acquisition of aspects of CA, and values and attitude modification of the teachers regarding CA implementation. At the same time it took into account the aspirations of the practitioners' (the lecturers) and the SMEs on how the pre-service teachers were to be prepared for CA implementation (see chapter 5).

The desired methodology was the one that integrated theory which accommodated practice during instruction, and it also assumed the DI model. It was observed that the lecturers partially integrated theory with practice because it was perceived to be time-consuming which would prevent effective curriculum coverage in readiness for the Primary Teacher Examinations (PTE) administered by MANEB. This collaborates with what Shulman (2004) noted that teachers do not always teach in the way they know due to political pressures (policy and mandates); curricular pressure (excessive amounts of material to cover) and teacher attitudes. Despite these factors, the integrating theory with practice was seen to be essential for knowledge and skills acquisition as well as values and attitude modification. Practising what the students have learned would thus enable the pre-service teachers to not only have minds-on but also hands-on experiences which would eventually impact on their values and attitudes towards CA implementation. The design guidelines for the SPI incorporated the desired attributes and teaching procedures that were informed by the baseline survey findings, and supported by the literature review. The following are the design guidelines for the SPI.

Firstly, with reference to the DI, (see Rosenshine, 1995), the researcher proposed that the SPI should be based on thorough planning. Careful planning for all the phases in the strategic pedagogy was seen as central for effective implementation of the SPI. The planning should comprise the content to be taught; the lesson activities to be carried out; the resources necessary for effective teaching and learning and assessment.

Secondly, the SPI should emphasise knowledge and skills acquisition of CA by the lecturers' integration of knowledge taught, and allowing the pre-service teachers to practice the content learned supported by participatory presentation of content.

Thirdly, the design guideline was that, for successful knowledge and skills transfer of CA implementation to occur, then lecturers must "walk the talk" through demonstration and/or modelling of their teaching. The lecturers were supposed to champion practicing what they

expected of the student-teachers in terms of CA implementation in the schools. To achieve this, they were required to demonstrate both CA concepts and how exactly CA could be integrated into the teaching and learning contexts. The pre-service teachers CA experiences were to be enhanced through observing what their lecturers were doing in the classrooms. If the pre-service teachers observed their lecturers doing what they expected them to do in the schools, it would then facilitate the knowledge and skills acquisition of CA implementation. For effective demonstrations to occur, there must be a deliberate phase where the lecturers show how to implement some CA aspect after the presentation phase.

The fourth design guideline for the SPI was engagement of pre-service teachers in deliberate practice of the content learned (Ericsson, 1993; 2008). Pre-service teachers should be given an opportunity to practice what they have learned for knowledge and skills transfer to occur. Although pre-service teachers go for a scheduled twelve-week school-based teaching practice, the DP is supposed to be planned and implemented within the college lectures. The lecturers should thus plan CA activities that can allow the teachers to practice soon instruction has occurred.

The fifth design guideline for the SPI was that it should be grounded on the provision of immediate feedback after each and every assessment, and evaluation activity. At each phase, there should be a deliberate effort to determine how well the phase was implemented (monitoring and evaluation) while keeping in mind the initial plans. The feedback obtained from such evaluation should be timely and informative for both the lecturers and the student teachers on how best CA implementation could be improved.

As design research is an iterative process of design, development and formative evaluation, the section that follows presents design, development and formative evaluation of the strategic pedagogy prototype one.

## **6.6 The design, development and evaluation of the SPI prototypes**

The design guidelines presented in 6.5 above assisted in the design and development of the SPI prototypes which were also evaluated and refined as presented below.

### **6.6.1 Design and development of the strategic pedagogy prototype one**

The strategic pedagogy for pre-service teacher education for CA implementation incorporated some of the phases of the DI mode since they were considered critical in fostering knowledge and skills transfer to the school teachers. Based on the best design guidelines (see section 6.5), the first prototype of the SPI model had five phases namely: plan, teach, demonstrate, practice, and evaluate (PTDPE). The coming section explains this.

### **6.6.1.1 Plan**

The effectiveness of the implementation of the strategic pedagogy for pre-service teachers' CA implementation begins with the lecturers careful and systematic *planning* of their lessons. This will involve the lecturers setting goals or objectives; developing the teaching strategies, and outlining the tasks and schedules to be undertaken to accomplish the goals. In the process, the lecturers decide what they want to do; how they will do it, and at what point in the lesson do they want to do so.

With reference to the PTDPE model, the lecturer is supposed to carefully plan the content on CA implementation; identify the teaching strategies he/she wishes to use during the lesson presentation; select, develop and organise the learning experiences; identify the teaching and learning resources; create the tasks and lesson activities to be included in the lesson; decide the sequences of the activities; decide on what and how demonstration activity will be carried out; plan the assessment activities as well as the expected responses for the tasks and activities; practice the task(s) (guided or unguided), and how he/she would evaluate each of the phases of the instructional process. In short planning should involve the lecturer asking and attempting to answer the what, when, how, who and whys of the other phases of the pedagogy. This means thinking through about what resources he/she will use; how the lesson will progress. The manner in which demonstration of an idea, concept or activity will be done. The assessment activities he/she will use to ascertain mastery of the skills, and what practice activities (guided and unguided) he/she will give. The assumptions on lesson planning mesh with Killen's (2009) argument that one cannot have a successful lesson without planning for it.

From what has been said, it is clear that the success of pedagogy is based on careful preparation. Planning is therefore the basis for effective and systematic execution of the phases of the strategic pedagogy that lecturers should use when preparing student-teachers for effective CA implementation in the primary schools (also see Avenant, 1990). After this instructional phase, teaching follows.

### **6.6.1.2 Teach**

*Teaching* is the actual delivery of what the lecturer had planned before the pre-service teachers. During teaching, which should include lesson introduction, development and conclusion, the lecturer systematically presents an aspect of CA planned to be taught on a particular day and time. In this phase, the lecturer describes, explains or shows, what he/she would like the learners to do. During the introduction of the lesson, the lecturers may mention what the lesson is all about; fixes the lesson objectives or success criteria; justifies the

relevance of the lesson content by among others mentioning why the topic is relevant in as far as CA implementation is concerned. Indicating the relevance of the content taught in CA implementation, will activate the interest of the pre-service teachers in what they are learning.

In this phase the lecturer will use either teacher-centred or learner-centred teaching or both approaches depending on the context and concepts being taught to take into account the pre-service teachers' multiple intelligences (MI) (Gardner, 1995). However, since the aim of teacher preparation is to equip these teachers with relevant knowledge and skills they will eventually use, participatory teaching strategies such as role plays, simulations, and case studies. These should be emphasised in order to have an active engagement with the students throughout the lesson delivery. To attain the ultimate objective of knowledge and skills acquisition and transfer, it is important for the lecturer to demonstrate to the pre-service teachers both the concepts being taught and how to implement it in an actual classroom setting.

#### **6.6.1.3         *Demonstrate***

The third phase of the strategic pedagogy for pre-service teacher education for CA implementation in the schools is *demonstration*. Demonstrations may also be referred to as “modelling” and they involve showing the students the concept related to CA, and how to implement it.

While demonstrations can be done unconsciously in the traditional classrooms, in the proposed strategic pedagogy, it has to be done consciously, purposefully and deliberately. This implies that the lecturer has to plan what to demonstrate, and how to demonstrate in the course of the teaching and learning. This should be deliberately tailored to achieve a particular goal. As Avenant (1990) states, “the object of demonstrations is mainly to accomplish in-context viewing” by the pre-service teachers. Good demonstrations will help the lecturer to concretely illustrate what he/she was teaching or presenting.

During demonstrations the lecturer can show the pre-service teachers by giving examples on how to compute a composite score after a series of CA activities, and/or how to develop and use an assessment tool. The central issue in this phase is modelling. The lecturer has to demonstrate how to actually perform what he/she has presented. Simply put, lecturers are to act as role models of what they exactly want the pre-service teachers to do when implementing CA now and in future. For example, if the lecturer was teaching a lesson on assessment tools such as a checklist, he/she should either show the pre-service teachers one and/or indeed demonstrate how to develop it. This demonstration could be done in an interactive manner with the full participation of the pre-service teachers. If the lesson topic was on how to compute



examinee monthly/termly or end of year scores from a number of CA and an examinations, he/she has to show the teachers how to do it. When pre-service teachers observe their lecturers demonstrate how to implement an aspect of CA, it will enable them to “develop the habits of mind and character that are appropriate to professional practice” (Grossman et al., 2009, p. 2060). It is, therefore, important that pre-service teachers should be given an opportunity to observe their lecturers doing something on CA implementation. Demonstration should be done side by side with explanations so that the teachers are aware of what the demonstration is all about. However, once demonstration of how an aspect of CA is to be implemented has been conducted, the pre-service teachers should be provided with an opportunity to put into practice what they have learned and observed from their lecturer.

#### **6.6.1.4 Practice**

*Practice* implies enacting what one has observed or learned usually repeatedly. During this phase, the lecturer should switch roles with the pre-service teachers. The lecturers should ask the students to practice what they have learned from the lecturer’s acts and demonstrations. The practice phase is for the pre-service teachers to have hands-on experience with what they will be doing when integrating teaching, learning and assessment. Roseneshine (1995) suggests that using the DI model, this practice could take two forms, namely: guided or unguided practice. In the guided practice, the lecturer can work through with the teachers on how to carry out self or peer assessment, develop an assessment tool like a checklist or a scoring rubric. Pre-service teachers should be given an opportunity to practice implementing an aspect of CA under the lecturer’s guidance and support from their peers. In instances where the pre-service teachers are having challenges to fully implement an aspect of CA during the practice, the students should be given a chance to reflect why this is the case, and identify how best this could have been done. This guided practice is considered essential as “candidates are supported in expanding their responsibilities in the classroom as they gain confidence and expertise” (Hollins, 2011, p. 404).

The guided practice should be followed by the unguided practice wherein the lecturer can assign the pre-service teachers activity/activities to practice in a group or individually. This time, the activity should be performed without the support of the lecturer (unguided practice). However, the lecturer should check for the progress students are making noting those who are excelling and those who need support. During this phase, the pre-service teachers are being exposed to the realities of classroom work, hence the practice activities should be aligned with the realities on the ground. Here, the lecturers should try as much as possible to bring in case studies of how the pre-service teachers can implement CA in different situations. By bringing in such case studies, it is hoped that the pre-service teachers will try out different

strategies on CA implementation in different contexts. This phase can be implemented within the lesson or can be done as homework. In addition, the practice, depending on its nature, can also take place at a demonstration school which is normally attached to the TTCs.

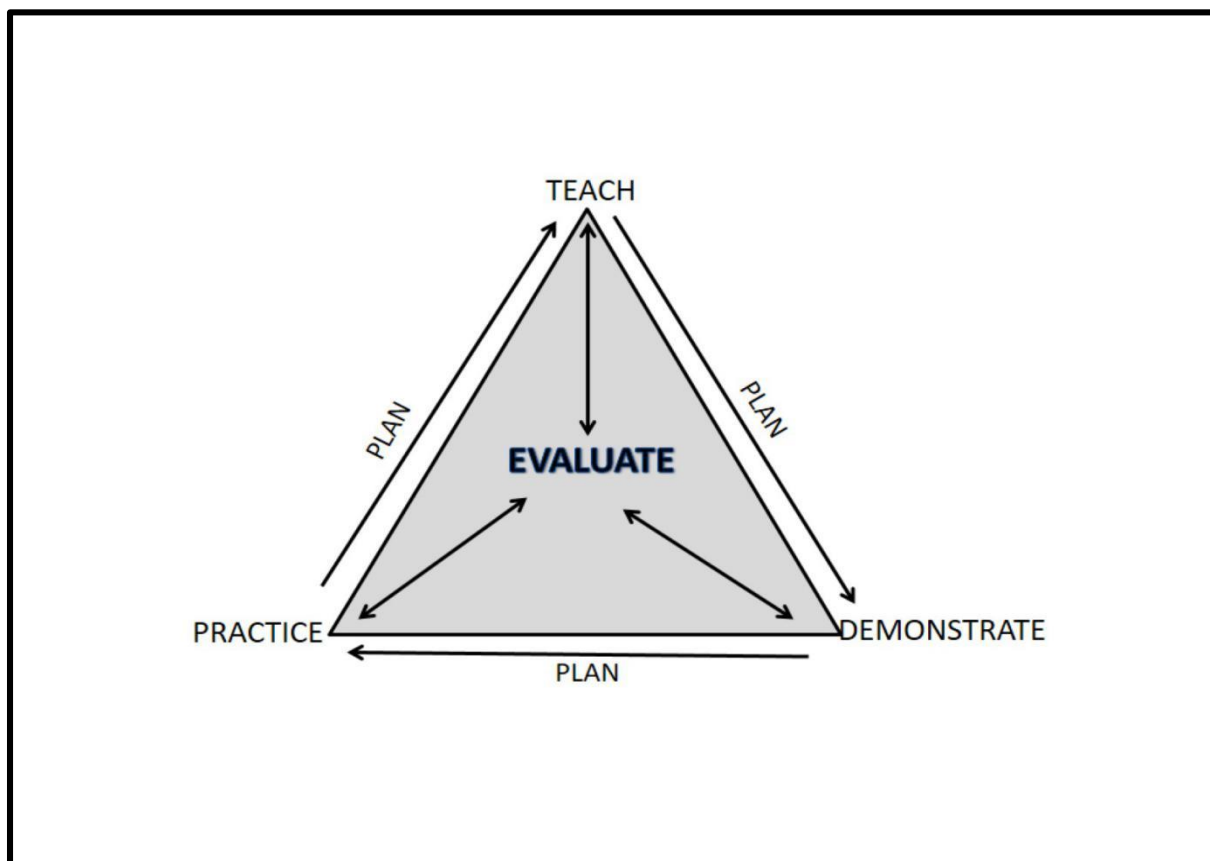
As the pre-service teachers engage in both guided and unguided practices, they are provided with the opportunity “to experience the same type of learning they are expected to facilitate for their students” (Hollins, 2011, p. 405) when implementing CA activities. This will not only improve knowledge and skills acquisition and transfer but will also enable them develop confidence and familiarity with CA implementation. It is the responsibility of the lecturers to constantly determine how well each and every phase of the strategic pedagogy is actually been implemented through evaluation.

#### **6.6.1.5 Evaluate**

*Evaluation* focusses on how well an activity was done, and how it can be improved for the better. In most instances, evaluation involves making a value judgment to determine the worth, significance or condition usually by careful appraisal and study. The aim of an evaluation is to improve practice. Looking at the acronym PTDPE of the strategic pedagogy, the phases seems linear starting with planning, teaching, demonstration, practice and evaluation. However, in practice, the model is much more dynamic. For example, the lecturer can carry out diagnostic evaluation prior to lesson presentation to determine the knowledge levels of the students. In addition, the lecturer can evaluate each phase as the phase is being implemented (formative evaluation) or has been implemented (summative evaluation). During the lesson, the lecturer can formatively evaluate the lesson to determine if learning is taking place as planned as well as to clarify misconceptions that may occur as the lecture progresses in order to improve learning. A lecturer can also carry out summative evaluation at the end of the lesson to determine how well the whole lesson went, and to determine the attainment of the lesson objectives or success criteria. To indicate that evaluation can take place at any phase, it has been shown by the double arrows pointing towards evaluation from each of the phases (see Fig 6.2). For this kind of evaluation to occur, the lecturers should have “reflective teaching behaviour” (Killen, 2009, p. 101). In reflective teaching, lecturers are supposed to have a critical attitude towards the whole process of teaching by constantly checking and analysing their own and the class’s performance in relation to all the phases of teaching (Killen, 2009). The figure below is the graphic presentation of the strategic pedagogy prototype one.

As can be seen in the Figure 6.3, the phases of the strategic pedagogy begins with the lecturer *teaching* the CA content to the pre-service teachers. The teaching is then followed by the lecturer *demonstrating* to the teachers the aspect he/she was teaching. This demonstration can take the form of either a video or picture or actions on what the lecturer was teaching.

Alternatively, the lecturer could show the pre-service teachers how to teach or implement the concept he/she was teaching before the pre-service teachers. The demonstration is followed by providing the pre-service teachers with the opportunity to *practice* how to implement an aspect of CA they have learned.



**Figure 6.2: Strategic pedagogy for pre-service teacher education prototype one**

Finally, there has to be an *evaluation* of how each of the phases was actually implemented. However, behind all the phases is *planning*. Planning is considered essential because the successful implementation of any of the phases of the strategic pedagogy hinges on effective planning.

### 6.6.2 Evaluation and Feedback of the Strategic Pedagogy prototype one

Design research products undergo different stages of design and development supported by formative evaluations at each iterative cycle (see Chapter 4). This section describes how the formative evaluation of prototype one of the strategic pedagogic intervention (SPI) was carried out. The review was guided by the quality criteria of relevance and consistency (Nieveen & Folmer, 2013).

### **6.6.2.1**      *Participants*

Formative evaluation and feedback of the SPI prototype one was carried out by three groups of evaluators. The first group, purposively sampled, comprised SMEs from the Department of Fine and Performing Arts at the UNIMA who assisted with the design of the prototype, and a staff member at the college where the researcher works who appraised the design of the model. Domasi College of Education (DCE) is a teacher education institution with the core mandate of training secondary school teachers, and teacher training college (TTC) lecturers up to diploma and degree levels. However, of late this mandate has since changed as DCE can now train even graduate teachers). The lecturer from the UNIMA had vast knowledge and experience in teaching French and Computer Sciences in secondary schools before becoming a lecturer. He also had graphic design skills. The choice of this SME was based on his artistic skills. The SME from DCE taught for many years at primary school and secondary school levels before becoming a lecturer at the DCE with a PhD. His experience as student at a primary teacher training college (TTC) as well as being a primary school teacher helped in determining the relevance and consistency of the strategic pedagogy (see chapter 4) .

The second group of evaluators were my supervisors who provided a critical evaluation of the strategic pedagogy. The third group of evaluators were the six lecturers who participated in the study during the intervention phase. Once the strategic pedagogy was introduced to them, they were asked to comment on its consistency with other instructional procedures they used at the TTC, as well as its feasibility. They were also asked to determine whether the pedagogy was so entirely new to them that it would pose a lot of implementation challenges.

### **6.6.2.2**      *Data collection strategies*

From the first group of evaluators, the UNIMA and DCE lecturers were asked to critique the pedagogy and offer their constructive feedback regarding the design, lay-out and the suitability of the phases (see Appendix G). They were also asked to comment on the relevance of the SPI considering their backgrounds previously as secondary school and primary school teachers respectively. In addition, the supervisor and co-supervisor offered their professional expertise on the structure and presentation of the SPI prototype one.

Five of the six research participants were also asked to evaluate the relevance, feasibility and consistency of the SPI before the training workshop of the implementation of the SPI commenced (see Appendix H). The sixth research participant was unable to participate in the evaluation as she was on maternity leave. The involvement of the five research participants as evaluators who were also going to eventually implement the SPI was also considered vital in increasing use and adoption of the SPI.

### **6.6.2.3 Formative evaluation feedback of the SPI prototype one**

The findings of the formative evaluation of the SPI prototype one revealed the following:

- ❖ The feedback obtained from all the participants indicated that the strategic pedagogy was consistent with other instructional procedures as the concepts were familiar and encouraged in any good lesson (See Appendix H).
- ❖ The participants indicated that the unique feature was the fact that it emphasised “deliberate”, which should encourage the implementers to include it in each phase.
- ❖ The participants commended the strategic pedagogy and pointed out the areas that needed to be looked at.
- ❖ There was an expressed need for *planning* to be a conspicuous phase in the SPI, and not appear as happening “behind the scenes.” The problem noted was that the way the model was structured, it appeared as if planning was taking place after each phase.
- ❖ Evaluation which was in the centre of the model depicted that it was a central feature as portrayed by the double arrowed lines connecting evaluation with each phase.
- ❖ The triangular design did not clearly depict the cyclic process of the SPI. The evaluators suggested using the cyclic design of the model. In addition, the arrows were seen to be a little bit confusing.
- ❖ Need to find another concept to replace Teach. It was observed that all the activities in each phase of the SPI embraced teaching.

The feedback obtained after the formative evaluation of the SPI prototype one led to the design, development and evaluation of the SPI prototype two as shown in Figure 6.4

## **6.7 Design, development and evaluation of the SPI prototype two**

Once the formative evaluation and feedback of the SPI prototype one was obtained, it led to the design, development and formative evaluation of the SPI prototype two. The process of the design, development and formative evaluation of the SPI prototype two is explained below.

### **6.7.1 Participants**

The participants that contributed to the design, development and formative evaluation of the SPI prototype two comprised the SMEs, research participants during the intervention phase and my supervisors.

### **6.7.2 Towards the design and development of SPI prototype two**

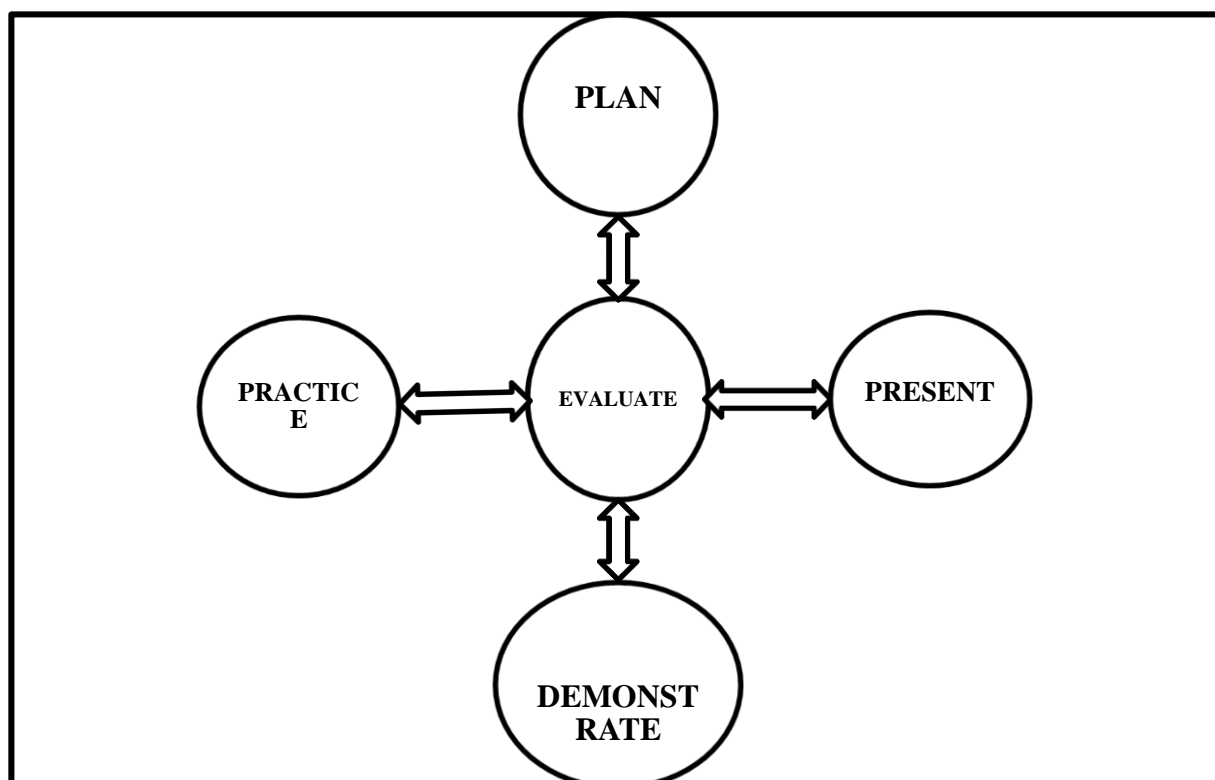
Section 6.6.2.3 depicted the areas of concern that needed to be addressed in order to improve the SPI prototype one. The design, and development of prototype two incorporated the

suggestions made by the evaluators presented in 6.6.2.3. In the first place, the triangular structure of the SPI was changed to depict that the SPI was a cyclic process by drawing a series of circles that represented each of the phases of the strategic pedagogy. In addition, planning as a phase was presented as a separate phase of the SPI. Furthermore, the double pointed arrows connecting each phase with evaluate were changed to depict that evaluation should take place at each phase of the SPI. Another improvement was the replacement of *Teach* with *Present* as suggested during the formative evaluation of prototype one of the SPI. Present, as a phase, was described as follows:

### **Present**

In the strategic pedagogy, to present implies the actual delivery or the implementation of what the lecturer had planned for the pre-service teachers. In this phase, the lecturer presents before the pre-service teachers what he/she had planned to implement when teaching an aspect of CA for the day. Here, the lecturer describes, explains or shows, what he/she would like the teachers to learn. To achieve this, the lecturer uses different teaching approaches in order to achieve the expected results as well as to accommodate learners of different abilities.

During the introduction of the lesson, the lecturers may mention to the students what the lesson is all about; fixes the lesson objectives or success criteria; justifies the relevance of the lesson content by among others mentioning the relevance of the lesson in as far as CA implementation is concerned. By indicating the relevance of the content taught in CA implementation, it will activate interest as well as motivate the pre-service teachers about what they are learning because they will realise its usefulness. In this phase, the lecturer can use either teacher-centred or learner-centred teaching approaches depending on the context and concepts being taught. However, since the aim of the SPI is to equip the pre-service teachers with relevant knowledge and skills, participatory teaching strategies such as role plays, simulations and case studies should be emphasised in order to have an active engagement with the students throughout the presentaion. The by-product of the design and development of the SPI prototype two culminated into the strategic pedagogy as depicted in Figure 6.4.



**Figure 6.3: Strategic pedagogy for pre-service teacher education prototype two**

### **6.7.3 Try-out and formative evaluation and feedback of the SPI prototype two**

Once the SPI prototype two was designed and developed, it had to be tried out and formatively evaluated.

The pretesting, formative evaluation and feedback of the SPI prototype two have been presented as follows: a description of the participants has been presented in 6.7.3.1; data collection strategies have been described in 6.7.3.2 and formative evaluation feedback of SPI prototype two is given in 6.7.3.3. The section that follows describes the participants that were involved with the pretesting of the SPI prototype two.

#### **6.7.3.1 Participants**

The pretesting of the SPI prototype two was done as peer teaching or micro-teaching lessons in one of the recreation rooms at the TTC. Five of the six research participants involved with the intervention phase were expected to present a topic in CA lessons in the presence of ten other lecturers who played a dual role of “students” as well as evaluators or “critical friends/peers” during the lesson presentations. One of the evaluators had a PhD and the rest had a Bachelor of Education degree (primary). The majority of the lecturers who attended the presentations had at one point in the research either participated in completing the

questionnaire, had their lectures observed or had also attended the debriefing session after the lecture room observations were completed; hence they were aware of the purpose of the study and what it attempted to achieve. However, none of them were involved either in the day-long seminar or workshops. This might have increased the objectivity of the evaluation feedback as the participants had no previous knowledge of the SPI.

### **6.7.3.2 Data collection strategies**

Prior to the presentations, the researcher showed the participants the SPI model and how it was designed and developed and stated briefly what the activity was all about, and what they were required to be doing during the presentations. The participants were told that they were to be “critical friends” and were to focus, in their observations on the relevance, consistency, practicality, and efficiency of the strategic pedagogy during the lesson delivery.

The researcher also briefly outlined the purpose of the session to the presenters and the “critical friends” by highlighting the fact that it was aimed at the presenters trying – out the SPI model that had the following phases: *plan, present, demonstrate, practice and evaluate* (PPDPE) which was undergoing a series of refinements in order to come up with a satisfactory instructional pedagogy for use by lecturers in TTCs when preparing teachers for effective CA implementation in the schools. The researcher informed the “critical friends” to note when each of the phases was being implemented during the lesson delivery. The researcher also explained the roles and expectations of the critical friends during the lesson presentations namely to act as students, and to provide feedback after the presentations.

After the researcher presented the SPI prototype, two of the research participants directly involved with the design and development of the strategic pedagogy tried-out the intervention by teaching following the strategic pedagogy. Besides the critical friends commenting on its relevance, consistency and “expected practicality” (Nieveen & Folmer, 2013) they were also asked to comment on the impact the strategic pedagogy would have on the pre-service teachers’ competence and performance for CA implementation in the schools. The researcher then wrote on a chart paper the two evaluation questions which the critical friends were to answer. The questions were:

1. To what extent was the SPI
  - a. Relevant?
  - b. Consistent?
  - c. Practical?
  - d. Feasible?
  - e. Efficient?



The researcher gave a brief explanation of the variables as follows: relevance was described as the strategy being suitable at a teacher education level; practicality was described as the strategic pedagogy being feasible or doable; consistency was described as the strategic pedagogy not being entirely new but had some commonalities with other existing pedagogies or teaching methods. Finally, effectiveness was explained as an attribute that characterised the extent to which the strategic pedagogy was useful and could be implemented within the time allocated for a lesson at the TTC (See chapter 4). This was done so that the evaluators had uniform understanding before evaluating the prototype. The evaluation and feedback was aligned with the quality criteria as explained in chapter four.

The second evaluation question was:

2. To what extent were the presenters able to implement all the phases of the SPI during the lesson delivery?

Thereafter, two of the five research participants presented a lesson each, one in numeracy and mathematics and the core elements were numbers, operations and relationships, while the lesson topic was “The teaching of addition”. The other research participant presented a lesson in expressive arts and the core element was skills of football: passing, while the topic was “rating scale”. In this case, a rating scale was used as a form of assessment in this subject for evaluating the content taught. The presenter explained to the participants how to develop and use the rating scale. The research participant who taught numeracy and mathematics had a formal written lesson plan (see Appendix I) unlike the one who taught expressive arts. Despite the absence of a formal written plan, the teaching approach indicated that there was some planning. It was interesting to note that the two presenters taught lessons in their areas of expertise despite being advised to teach a topic related to CA implementation. The second presenter integrated CA in the lesson by enabling the participants to develop, and use an assessment tool for assessing the lesson. This observation indicated that it was possible to teach CA across the curriculum and not being confined to Education Foundation Studies as it had been the case.

The fact that the presenters taught lessons in their respective areas of specialisation suggested that the initial decision to involve lecturers in the Faculty of Education (see chapter four) was reasonable as it was going to be easier for the lecturers to teach concepts of CA related to their area of specialisation.

Lesson presentation 1: numeracy and mathematics lesson

The lesson was presented by a participant who had a B.Ed and was studying for a master of education (M.Ed) degree. His area of specialisation was in mathematics. Like the other lecturers, with the exception of one, he had attended some CPD in CA. However, he had less than five years teaching experience as a lecturer.

As can be observed on the lesson plan (see Appendix I), the lesson managed to cover all the phases of the strategic pedagogy. The lesson presenter had a formal written lesson plan as evidence of planning. During the actual delivery, he taught “The teaching of addition” but demonstrated how to assess students’ performance through the use of a checklist which was developed by the “students”. The class was given an opportunity to identify the areas that were to be assessed using the checklist. In line with deliberate practice (DP) approach, he guided the activities but at some point in time he gave the students unguided practice activity. The presenter taught the participants how to formulate and use a checklist as an instrument for implementing CA.

Lesson presentation 2: expressive arts lesson

The lesson was presented by a participant who had a B.Ed. His area of specialisation was in expressive arts. Like the other lecturers, with the exception of one, he had attended some CPD in CA. However, he had less than five years of teaching experience as a lecturer.

During the lesson *presentation* the lecturer began with a description of the term CA; its importance in learning assessment and some of the assessment tools that a teacher could use when implementing CA but the lesson concentrated on how to use a rating scale when assessing learners on a topic “Skills in football: passing”. During the lesson *presentation*, the presenter explained the meaning of a rating scale, how to develop it, and how to use it. During *demonstration* an example of a rating scale was presented as shown in the figure below. The participants were asked to put a tick below the numbers whose explanations were given in the key

	4	3	2	1
To what extent does the learner pass the ball to another learner?				

**KEY**

- 4      Passing the ball completely
- 3      Passing the ball with some skills displayed

- 2 Passing the ball at least to a teammate
- 1 Passing the ball anyhow, and in a wrong direction

In this presentation, the participants *practice* was in the form of asking the participants to use the rating scale. Finally, the presenter wrapped up the lesson by asking questions based on the content taught, and told the participants what will be covered in the next lesson as a form of summative *evaluation*.

During plenary, the participants commented on their involvement throughout the lesson delivery and the lecturer's ability to demonstrate what he was teaching.

### **6.7.3.3 Formative evaluation feedback of SPI prototype two**

There was a plenary session after the two presenters had finished teaching. During this time, the "critical friends" commented on the lessons with reference to the tasks given to them (see Appendix J). The tasks given to them were to judge the presenters' ability to teach following the SP model. The critical friends were also asked to comment if it was possible to identify which phase of the model each presenter was at during the lesson delivery. They were also asked to comment if it were possible to use such an instructional pedagogy in a real classroom setting (expected practicality) at a TTC and to identify challenges with the SP.

Generally, the participants applauded the design of the strategic pedagogy, and its phases as attested by one participant who said:

*"I am particularly happy with the strategic pedagogy because it is not entirely new but places great importance on the aspects that we ignore during teaching."* (Critical friend 1).

Another participant expressed satisfaction with the inclusion of practice which she indicated was most of the times overlooked:

*"I am happy with the practice phase because it will enable the students to have hands-on experience immediately after an instruction"* (Critical friend 2).

Regarding the extent to which the strategic pedagogy was relevant, practical and feasible, all the participants indicated that the strategic pedagogy met all the aspects. When probed to explain, one participant said:

*“All the phases in the strategic pedagogy are the ones we expect to see in a good lesson”* (Critical friend 4).

The participants, however, faulted the strategic pedagogy on the aspect of effectiveness. They indicated that:

*“It might be difficult to cover all the phases in a one hour lesson and also to complete the curriculum as it may take a lot of time during practice”.*

(General consensus)

In addition to the comments, there was a unanimous agreement that both presenters were able to incorporate all the phases of the strategic pedagogy in their lessons. As said by one critical friend:

*“It was clearly visible to me that the presenter was on demonstration phase and practice phase of the strategic pedagogy”* (Critical friend 7).

In addition, the participants were particularly pleased to see that the presenters were able to use the SPI in other learning areas, and not specifically teaching aspects of CA as contained in the Foundation Studies learning area. One critical friend said:

*“You see, the presenters are not from Foundation Studies Department but were able to not only integrate aspects of CA in their lessons but were also able to teach how to implement aspects of CA in the lessons”* (Critical friend 5)

The critical friends were especially encouraged to observe how *demonstration* and *practice* phases were embedded in the SPI.

Responding to how the strategic pedagogy would *impact* on pre-service teachers ability to implement CA in the schools, the critical friends indicated that if well executed, it would impact positively on the pre-service teachers' ability to implement CA in the schools. The following is the response.

*“You know sir, the presenters were able to demonstrate how to implement an aspect of continuous assessment. In addition, they gave us an opportunity to practice what we had learned. I feel that the inclusion of demonstration and DP will increase the chances of the pre-service teachers' ability to integrate teaching, learning and assessment in the classroom”* (Critical friend 8).

However, the critical friends raised concerns on the *structure* or lay out of the SPI model that would render the implementation of SPI ineffective. For example, the critical friends indicated that the SPI appeared like a “skeleton lacking meat” or information that would assist the lecturers when implementing the SPI. They expressed the need for an elaboration of each phase of the SPI in the circles. In addition, they also indicated the need for the phases to be linked with each other in order for the pictorial presentation to depict the cyclic nature of the SPI. The feedback helped in improving the SPI prototype two as detailed in 6.8.

### **6.8 Design, development and evaluation of SPI prototype three**

This section provides the design, development and formative evaluation feedback of the SPI prototype three. The feedback obtained after the try-out of prototype two was incorporated into the design and development of the SPI prototype three as presented in Figure 6.5. Significant changes included the following:

- 1) Inclusion of concepts that describe the activities for each phase of the SPI,
- 2) Drawing arrows joining each phase, and
- 3) Presenting the model in a cyclic manner, and explaining each phase of the model as detailed below:

#### ***Plan***

This phase, includes planning for all the lesson content to be taught, the success criteria, teaching strategies, teaching and learning and assessment resources; how the demonstration and practice phases will be done; activities for different types of practice, and the questions/activities that will be used during lesson evaluation.

#### ***Present***

This entails actual delivery of the lesson focussing on giving answers to the questions based on what, why, how and where.

#### ***Demonstrate***

This requires the lecturer to develop either assessment tools or strategies on how to implement aspects of CA and then show them to the pre-service teachers. As the demonstration is taking place, the pre-service teachers observe. The demonstration can also be carried out with full participation of the learners in the classroom. This will depend on the

nature of the concept to demonstrate. The main focus is for the lecturer to show what and *how*s of CA related concepts.

### ***Practice***

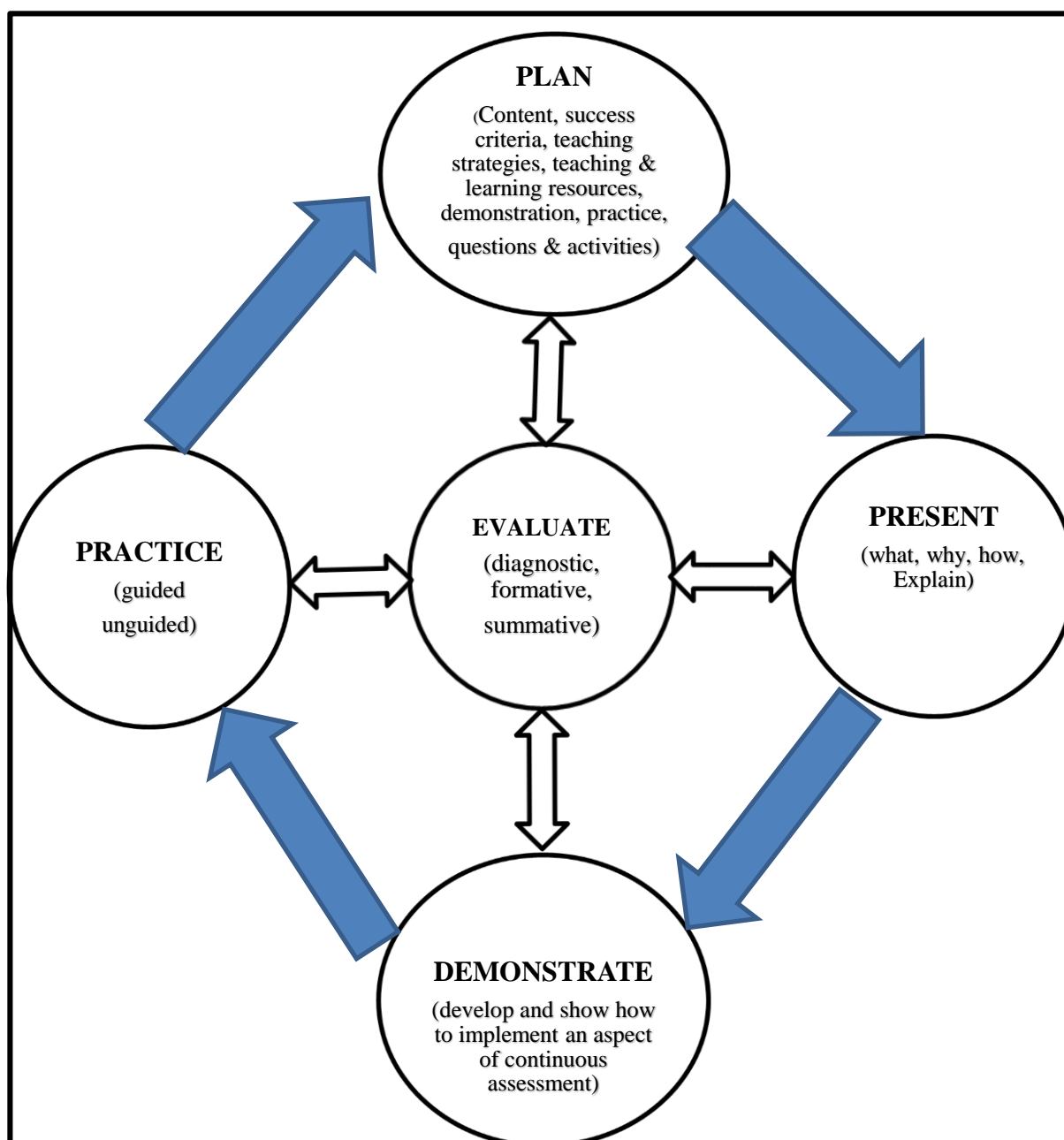
This implies pre-service teachers trying out what has been taught by the lecturer. It could be in the form of an activity or task but related to CA. In line with the DI, the tasks can be done initially with the lecturer support (guided practice) and/or without the lecturer's support (unguided practice).

### ***Evaluate***

This involves determining the effectiveness of what was taught and how it was taught, and it can be diagnostic, formative and summative depending on when it occurs.

As can be seen in Figure 5, each phase had included a description of the phase. For example, the planning phase has included the aspects that the lecturer has to think about such as the content, success criteria, teaching strategies, teaching and learning resources, what and how to demonstrate, what kinds of practice activities will be carried out as well as how the evaluation will be done.

In addition, each phase was connected with bold one-direction arrows which was not available in prototype two. The bold one-direction arrows depicted the cyclic nature of the strategic pedagogy from plan, present, demonstrate, practice and evaluate which should occur at each phase.



**Figure 6.4: Strategic pedagogy for pre-service teacher education prototype three**

### **6.9 Implementation and evaluation of the SPI prototype three**

The previous section provided the SP prototype three which incorporated the feedback evaluation of prototype two. This section presents how prototype three of the intervention was actually implemented. It begins by describing the participants, data collection strategies and how the evaluation feedback was done which focused on the quality criteria. The research question that guided this phase was how practical and effective was the strategic pedagogy in enabling knowledge and skills acquisition and transfer for CA implementation in the schools.

As the implementation was done at a TTC, the findings depicted expected practicality and effectiveness (Nieveen & Folmer, 2013).

The SPI prototype three was implemented in two lecture rooms which were identified and set aside by the college management for the implementation of the strategic pedagogy.

### **6.9.1 Participants**

The presentations using the SPI three were in two lecture rooms each containing forty-two pre-service teachers. All the five participants were scheduled to teach different topics related to CA in turn. However, due to other commitments not all the five participants were involved in the actual implementation of the SPI three. Three lecturers indicated that they would implement the SPI three while the other two were busy with other college-related activities. However, only two lecturers were involved in the implementation of the SPI three for a period of six weeks as the third was on study leave.

### **6.9.2 Data collection strategies**

The researcher collected feedback evaluation after the implementation of the SPI through oral interviews (see questions for interviews in appendix K) and anecdotal reports from the participant who was unable to implement the SPI because of other commitments but participated in all the activities of the design, development and formative evaluation of all the three prototypes. The oral interviews were transcribed (see appendix L for transcription), coded manually before being analysed and interpreted using thematic content analysis (see thematic content analysis themes in appendix M).

### **6.9.3 Findings of the summative evaluation and feedback of SPI prototype three**

The audio recorded interviews were transcribed before the data were manually coded and analysed using thematic content analysis. The summative evaluation of the SPI was aimed at determining the practicality and expected effectiveness of the SPI as well as to determine, through introspection, the extent to which the strategy would enhance knowledge and skills acquisition and transfer, and to identify areas that needed improvement for its effective implementation. The quality criteria of actual effectiveness which necessitated try-out of the strategic pedagogy on a large sample (Nieveen & Folmer, 2013) was not carried out. Expected effectiveness was, instead, the focus of the summative evaluation (see chapter 3 for further details).

The feedback from the lecturers who were involved in implementing the SPI three at the research site clearly indicated that the SPI was relevant, consistent and practical. However, its effectiveness in enabling the pre-service teachers to implement CA in the schools was not



examined but is recommended for further research. Moreover, all lecturers interviewed during the summative evaluation of the SPI indicated that it had the potential to improve knowledge and skills transfer to the pre-service teachers' CA classroom practice through the DP and *demonstration* which signalled expected effectiveness of the model. Below is the presentation of the summative evaluation of the SPI in terms of the quality criteria.

### **6.9.3.1      *The relevance of the SPI in a TTC context***

Regarding the relevance of the SPI as an instructional strategy in pre-service teacher education, all the three lecturers who were involved in implementing the SPI indicated that the SPI as an instructional strategy was relevant in enhancing knowledge and skills acquisition and transfer to pre-service teachers bearing in mind the role of a teacher training institution. As a teacher training college, its role was to prepare teachers who will be able to carry out all the work required of them in the classroom and outside of the classrooms. As such, the SPI was relevant in the sense that it exposed the pre-service teachers to what, and how they will actually be implementing CA in the schools as evidenced by the following:

*"It is relevant to be used at a teacher training college because as we are training teachers here, there is no way a teacher can run away from preparation and again there is no way a teacher will run away from evaluation. So I feel this strategy is very important in the training of teachers"* (Implementer A).

*"Aaa ...so which means that a teacher really is able as a teacher trainer to teach a concept, and demonstrate it how it is done and give tasks to the students... they have to practice how they can do it in a lesson because we would like them to teach in the primary schools... So how can they do it to make sure that they will be able to evaluate or to know how much learners have understood... what is it that they are able to do. So I find it to be relevant with adequate or proper planning"* (Implementer B).

Using the SPI

*"You are sure of what you are teaching... And you are sure that the learners are getting the correct information. Rather than just teaching and then evaluating at the end, you have no time to do it. Sometimes you just fill out the schemes as if you achieved what you wanted to achieve"* (Lecturer C)

In relation to these findings, it can be concluded that the SPI three would not have many implementation challenges as it was viewed to be relevant by the implementers. Its relevance was noted by the inclusion of *demonstration*, *practice* and *evaluation* phases and the attendant explanations.

### **6.9.3.2            *The practicality of the SPI***

An important aspect of any intervention is that it should not only be relevant but also should be practical (Plomp & Nieveen, 2013; Nieveen & Folmer, 2013). This means it should be feasible or implementable in the contexts it was designed for. The lecturers who implemented the SPI in the two lecture rooms were asked if the SPI was practical. In response to the question, there was clear indication that the SPI was practical and could be implemented in the TTCs. The following responses explain this understanding.

*“All the stages of the SPI are doable. Yeah, they can easily be done in a classroom setting” ...So, I would be saying it is practical... And if it is put into place, it might help in the development of the student teachers to become effective teachers in future (Implementer A).*

*“Aaaa maybe first of all I should start by saying that personally I feel that it is doable here in the college in the sense that I think as a teacher training institution... we need to be exemplary... we need to be role models in the way we conduct our lessons” (Implementer B).*

*“It is usable and a good strategy because...when you are teaching and then evaluating in the process of the teaching, even not at the end but during the course of the lesson itself... and you evaluate the lesson, it helps the learners to get the meaning*

*of the concepts easily and also it helps find out if you are going together with the learners... If learners are getting what you want them to learn, you can easily make corrections where you feel the learners haven’t captured the correct information of what you wanted them to get” (Lecturer C).*

From the findings above, it can be concluded that there was great potential for the model being adopted as an instructional approach when preparing pre-service teachers as it was viewed as being *“doable”, “practical”* and *“usable”*.

### **6.9.3.3            *The consistency of the SPI***

The participants were asked if the SPI was consistent with other instructional approaches that they were familiar with. Consistency was taken to refer to the extent to which the instructional approach was similar with other instructional procedures they were familiar with. Responding to the question, the participants were of the opinion that the phases in the SPI were familiar; hence the SPI was consistent with what they already knew. See the excerpts given below.

*“Yeah, personally ... I find that it fits well with other strategies. It’s not that the strategy is so different from other strategies but only that this is also more emphasising on issues of practice and evaluation. I know that there may be, teachers maybe... during the presentation, they may plan but this particular part where they have to practice and be able as lecturers or teachers to evaluate... I think it’s where I find that there seems to be a gap among teachers or lecturers. Because people find time to allow learners or students to practice and then themselves evaluate to improve the next lesson”* (Implementer B)

*“The method is not very different from other methods, it is consistent.*

*Only that this method is emphasising... all the other methods require*

*planning...but then even the other methods will also require demonstrating... and demonstrating is a fact in teaching. If you don’t demonstrate then you don’t expect the learners to get what you want. Just speaking or saying it to them will not be enough. That is where I see this method to be special because it emphasises on demonstrating... and then proceed with the other steps. The emphasis is the one that makes it different. But it is not just unique from the other methodologies. It is only the emphasis on demonstration. It’s a must that one has to demonstrate when using this method”* (Lecturer C).

These responses were in line with the central aspects of the strategic pedagogy in that the lecturers were required to enact what they already knew; nonetheless for some reasons, they could not put it to practice. The fact that the strategic pedagogy was consistent with other instructional strategies, surely signaled that all things being equal, the SPI three had a chance of being adopted for use.

#### **6.9.3.4        *The potential of the SPI to be adopted as an instructional procedure in TTCs and its impact on pre-service teachers’ competence and performance of continuous assessment***

It is one thing for an intervention to attain relevance, practicality and consistency and another thing to be successfully adopted by the intended users. It also another thing for such an innovation to have the potential to change the way the lecturers and pre-service teachers implemented CA in the schools. This is because people are generally resistant to change, and that change takes a lot of time to be embraced. There is, therefore, a need to determine its effectiveness.

According to Plomp and Nieveen (2013) and Nieveen and Folmer, (2013), effectiveness of an intervention can be both *expected* and *actual*. As indicated earlier, the study sought the expected effectiveness of the SPI. The lecturers were, therefore, asked if they would recommend use of the SPI to other lecturers and also if they felt that the SPI would impact on the pre-service teachers' ability to implement CA in the schools. The ideal way to determine the second part of the question was to make a follow-up and observe the pre-service teachers in the schools after graduation to determine whether they were able to implement CA as intended. However, this was not feasible due to time constraints. That aside, it was necessary to get the views from the lecturers in order to have an indication if the strategic pedagogy would have a high chance of being adopted in teacher preparation programmes as well as to have an introspective idea of the impact the SPI might have on the pre-service teachers' ability to implement CA in the schools.

The lecturers unanimously indicated that given a chance, they would recommend the SPI to other lecturers at the TTC, and some wondered why the SPI was not introduced to all the lecturers at the TTC. The responses below explain this fact.

*"Yeah, I would share with the other lecturers this particular strategy... of course I know there may be some saying maybe as I said... it already fits very well with the other strategies or there may be others doing it but they may not know that what they are doing is this particular strategy. Then it will be just a matter of discussing with them how best this particular strategy can work in the classroom... how we can improve it... so that the student teachers take this particular strategy or they experience this particular strategy from all other lecturers that attend to them"* (Implementer B).

This implementer also added:

*"If all of us (lecturers) could have in mind this particular strategy, so that when you are teaching the students they are able to see or experience from each and every lecturer that enters the classroom... that is going to deepen their understanding and practicality of the strategy in the classroom"* (Implementer B).

The other lecturer had this to say:

*"Aaah... I wouldn't think for them to say they would be happy but personally I think it's a good method which very honestly good lecturer would want to accept. Then it's difficult for me to say they would be happy or accept it"* (Lecturer C).

Finally, Implementer A said:

*“Yeah. The lecturers are going to welcome that... I see them welcoming that without any problems... Because there is this saying that you should do as I do but do as I say. So... it is better for the lecturers to adopt this thing of saying you present, you demonstrate, and then let the students practice”* (Implementer A).

In addition to the participants' recommending the SPI to other lecturers, they also viewed the SPI as contributing to the attainment of quality education if well implemented in the TTCs as said by participant.

*“If it is put in place, it might help in the development of effective teachers in future”* (Implementer B).

When the lecturers that implemented the SPI were asked for their views about the potential of the SPI impacting on pre-service teachers' ability to implement CA in the schools after undergoing through CA using the SPI, the majority of the lecturers suggested that the SPI would have the potential to transform the way CA implementation was done in the schools. For example, one implementer said:

*“Yes, I would say so... Aaah it would really help them to implement CA in the schools”* (Implementer B)

However, he decried the fact that only a few lecturers were introduced to the SPI at the TTC. See the response below.

*“...but the challenge is that since not all lecturers are aware of this particular strategy. So, it's like there maybe lack of emphasis from all the people that are involved in the training of these particular teachers”* (Implementer B).

From the lecturers' point of view, the SPI was worth implementing by all the lecturers in the teacher preparation programmes. It would be assumed that the practicality, relevance and consistence of the SPI contributed greatly to such decisions. However, there were some challenges during the implementation of the SPI.

#### **6.9.3.4 Challenges encountered during the implementation of the SPI**

In response to the question, there were two contradictory responses. The first response indicated that the SPI did not have major problems during its implementation; while the other responses presented some challenges as evidenced in the following sentences.

*“Aaah... the strategy does not have much problems (sic) because even in normal teaching situation, one needs to plan, and planning will include on how to present. When you are developing the lesson, during planning, you think of how I am going to present the lesson so that it is effective. And some of the things that you look into are the resources you are going to use, how you are going to use those resources, and then how you are going to find out whether the learners have received the information or not” (Lecturer C).*

However, two issues were raised that might jeopardise the effective implementation of the SPI. To begin with, it was observed, by a male implementer, that it was difficult for some pre-service teachers, especially female students, to come forward to practice what they had learned. This assertion was corroborated by the following responses.

*“Aaah the challenges might be there but not many because mostly it was to do with the practice wherein some other classes you would find mainly some learners a little bit shy to do the activity. But in some other classes, you could find most of the students ready to practice to try out that particular concept that I was teaching. And mostly it was I think these female teachers some of them were a little bit having some problems to stand in front and practice or tryout that particular concept that I was teaching but on the whole aaah there wasn't a big challenge in implementing it” (Implementer B).*

The remarks by the male implementer suggested that females were shy to demonstrate or practice aspects of CA. However, there was no feedback from a female presenter as they did not participate in implementing the SPI. It was therefore difficult to check if this was a problem of chauvinism and prejudice or just a matter of fact.

Another challenge that was noted during the implementation of the SPI was the unavailability of resources to be used for *demonstration* as explained in the following responses.

*“Aaah... there were some challenges, yes mostly to do with resources. Because for these methods to work effectively, we must have resources. And the challenge in several situations is that you may not find appropriate materials to use to demonstrate to the learners” (Lecturer C).*

It can now be concluded that the implementation of the SPI did not have unique challenges specific to it rather than those generic issues that can affect any instructional strategy, and these challenges can be managed with careful preparation and management. As indicated by one implementer regarding female pre-service teachers being shy to practice, this if proved to be true, could be handled by an orientation on classroom management. In addition, it was not

clear the extent to which gender bias would have influenced this response as there was no female representation who would have provided the lived experiences.

It should be noted that the strategic pedagogy is not trying to be prescriptive but descriptive. Its central tenets are that lecturers in TTCs should present their lectures on issues of CA by deliberately having a session to *demonstrate* what they teach and allowing the pre-service teachers to *practice* (DP) what they learned. This DP will enable the pre-service teachers not only to be familiar with the content but also internalise what they have learned, and determine if what they have learned could be put into practice.

### **6.10 Assessment of the impact of the SPI**

The assessment phase of the study was aimed at determining the impact of the SPI on the pre-service teachers' ability to implement CA in the primary schools during their scheduled teaching practice after being taught CA content knowledge (CACK) and CA pedagogical knowledge (CAPK) using a strategic pedagogy underpinned by the DP pedagogy that was aligned with the DI. The plan was to follow-up on some of the pre-service teachers who were taught CA aspects using the SPI, and those who were not exposed to the SPI and compare them, through classroom observations on their ability to implement CA in the schools so as to determine the SPI's effectiveness. However, this study only examined the expected effectiveness at the TTC level and nothing more due to time limitations and resources. As suggested by Nieveen and Folmer (2013), larger sample sizes are needed to determine the actual effectiveness of an intervention of which this study did not manage to achieve given that it was limited to a single TTC.

### **6.11 Conclusion**

The chapter has presented the design, development and formative evaluation of the SPI through a number of iterative circles wherein a number of prototypes were developed and evaluated. The baseline survey findings informed by the literature on DP theoretical framework and DI as the instructional model led to the development of design guidelines for the SPI prototype one. The SPI prototype one was evaluated, and the feedback focused on the structure of the model; for instance, that the triangular shape did not depict the cyclic nature of the model. In addition to this, there was a suggestion to replace the notion *teach* with another concept as it was viewed that everything in the model was about teaching. The formative evaluation of prototype one then led to prototype two which was tried out and subsequently evaluated by critical friends. The feedback suggested that this model too was relevant, consistent, practical and feasible. However, there was a need to reconsider revisiting

the structure and to elaborate more on what each phase of the model entailed to guide the prospective users of the model.

The implementation of prototype three was done by two lecturers in two classrooms identified by the college management. The summative evaluation after the implementation established the relevance, consistency, practicality and expected effectiveness of this model. While this study did not go to the extent of determining the actual effectiveness of the strategic pedagogy in the primary schools; still it has been recommended for further implementation by the majority of the participants. The next chapter presents the summary, conclusion and recommendations.



## CHAPTER 7

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 7.1 Introduction

The previous chapter presented how pre-service teacher education for CA implementation in the schools could be improved through a strategic pedagogy (research sub-question 3) anchored in the collaborative process of designing, developing and implementing the prototypes through successive iterative cycles.

This chapter presents the summary of the study including the methodology and findings, conclusions reached and recommendations made based on this study called, “A strategic pedagogy for pre-service teacher education for effective continuous assessment implementation in Malawi.” The chapter starts by presenting the summary of how they study was conducted (7.2). Then Section 7.3 presents the summary of the main findings according to the research questions. Characteristics of the strategic pedagogy for pre-service teacher education for CA implementation is presented in section 7.4. This is followed by reflections of the research methodology in section 7.5. Section 7.6 on the other hand presents the conclusions emanating from the study. Section 7.7 presents recommendations for policy, practice, and for further research. Final remarks are presented in section 7.8; while section 7.9 presents the conclusion for the whole chapter.

#### 7.2 Summary of the study

This section provides the summary of the study by describing the aim of the study and how the study was actually carried out.

The study sought to understand the pedagogical practices lecturers in the IPTE programmes used as they prepared primary school teachers for the implementation of CA in Malawi’s primary schools and; to identify and understand the design principles and characteristics needed in order to collaboratively design, develop and evaluate an effective strategic pedagogy that could be used in pre-service teacher education. The ultimate aim was to identify a strategic CA implementation pedagogy that might be used in pre-service teacher education programmes aimed at empowering the lecturers to use effective pedagogies that could foster CA knowledge and skills acquisition and transfer for implementing CA.

The problem that necessitated the study was that there were persistent challenges that confronted primary school teachers when implementing CA despite the fact that these teachers were oriented or trained in this area (Chiunda & Kuopsya, 2010). The worrisome part

was also that CA implementation problems were also being experienced by the teachers who were recent graduates of IPTE whose curriculum was built around PCAR philosophies.

It should be noted that the literature review (chapter 3) indicated that despite the fact that evaluation studies on PCAR implementation depicted that teachers and administrators do not fully implement PCAR in general and CA in particular (see Chiunda & Kuopsya, 2010; Matiti, 2009), there has been limited research conducted to understand how primary teachers were actually being prepared for CA implementation in the TTCs. This study therefore attempted to fill that gap.

In order to better support teachers to improve their CA content knowledge and pedagogical content knowledge, it is important first, to understand how the school teachers were prepared under the IPTE. The assumption is that, the way teachers are trained may have some influences on their teaching effectiveness. As argued before, teacher training practices may reflect how and what the teachers will do in the classrooms (Holins et al, 2011; Chipeta et al, 1993). To this end, understanding the training context and the actual process would help shape the assumption held by this researcher. In a nutshell, the researcher assumed that teachers' ineffective CA implementation in the primary schools, reflected the kind of teacher preparation training for CA implementation these teachers received while in the TTCs. Inadequate training and knowledge on how to implement PCAR and CA were initially felt to be some of the factors that adversely affected implementation of CA in the schools. It was therefore inferred that the instructional pedagogies that lecturers in TTCs used on how to implement CA had a role to play in the primary school teachers' CA implementation practices. It was further subsumed that effective instructional procedures that involve pre-service teachers in various aspects of the lesson would not only enable the pre-service teachers to acquire relevant CA content knowledge (CACK) and CA pedagogical content knowledge (CAPCK) but would also enable them to transfer CA implementation skills in their respective primary schools.

In order to address the above concerns, the study focused on the following research question and sub-questions.

The main research question was framed as "What are the characteristics of a strategic pedagogy that lecturers, in pre-service primary teacher education institutions in Malawi, could use for continuous assessment implementation? The following were the sub- questions:

1. What knowledge, attitudes and practices of CA do TTC lecturers possess that influence the way they prepare primary school teachers for CA implementation?

2. How do the current content and pedagogical strategies, used in the TTCs, support continuous assessment implementation?
3. How can instructional strategies that lecturers use when preparing pre-service teachers for CA be improved?
4. How does the use of a strategic pedagogy during instruction impact on the lecturers' instructional practices and pre-service teachers' CA implementation in the schools?

Following Plomp et al (2013) research questions like these could better be approached using design research as the research design (see chapter 4). For this reason, the study was conducted in three phases namely: baseline survey, intervention study, and implementation and evaluation (see chapters 4, 5 and 6). The baseline survey (needs assessment) sought to investigate and understand the pedagogies that lecturers in the pre-service primary teacher education programmes used as they prepared pre-service primary school teachers for CA implementation in the schools, and also to collaboratively determine what instructional strategy would be appropriate for use in the TTCs in Malawi that would enhance teachers' ability to implement CA as intended by the curriculum developers (see chapter four).

Using mixed methods, data was collected from lecturers and other SMEs using questionnaires, observation instrument, debriefing, day-long seminar and interviews (see Figure 4.1). Multiple data collection methods helped to triangulate the findings to ensure validity and reliability of the data. The needs assessment was aimed at identifying the problem(s) with teacher preparation for CA and how these problem(s) could be improved. This then meant that the focus be put on research sub-questions one, two and three).

Based on the findings of the baseline survey (chapter five), the intervention study and implementation and evaluation phase (chapter six) collaboratively designed and developed the strategic pedagogy that lecturers could use when preparing primary school teachers for effective CA implementation in the schools in Malawi. The intervention phase was a collaborative effort with the TTC lecturers and SMEs in the designing, developing and formatively evaluating three generated prototypes. Based on the findings of the baseline survey, a strategic pedagogy was collaboratively designed, developed, evaluated and implemented by two lecturers since the other four were committed. The iterative processes of designing, developing and formatively evaluating the successive prototypes, to come up with a satisfying or almost satisfactory product, helped in getting a usable product that would also be adopted and be used by the implementers owing to its familiar features. During the intervention study, and implementation, data was gathered using interviews for evaluation. This phase addressed research sub-question four, and did focus on the quality criteria of practicality and expected effectiveness (Nieveen & Folmer, 2013).

The final product of the strategic pedagogy (Chapter six, Figure 6.5) was implemented by two of the six participants in two classrooms. Finally, an assessment phase (chapter six), which was an evaluation of the SPI utilised by the two research participants, was carried out.

Feedback from the evaluation processes suggested that the SPI, if implemented well, had the potential to equip lecturers and student-teachers with both CA content knowledge (CACK) and CA pedagogical content knowledge (CAPCK). The research findings have been elaborated further on this potential in section 7.3 below.

### **7.3 Summary of the research findings**

The previous section presented the summary of the study outlining what was done in the research process. The coming section presents the study's findings according to each research sub-question.

#### **7.3.1 Knowledge, attitudes and practice of CA**

The first sub-question was: "What knowledge, attitudes and practices of continuous assessment do TTC lecturers possess that can influence the way they prepare pre-service primary school teachers for CA implementation?"

This section presents the summary of the findings.

Data findings (see section 5.3.2.1) and a reflection of the instructional practices lecturers used (see section 5.3.3) as they prepared pre-service primary school teachers during and after the lecturer room observation of twenty-two lecturers (see section 4.4.4.2) suggested that despite the lecturers' possession of theoretical knowledge and understanding of CA and positive beliefs and attitudes on the same, little or no effort was made to assist pre-service teachers practice how to implement CA during instruction. Their knowledge was depicted in their responses to questionnaire items that asked them to state what they understood by CA; its functions and how it could be implemented; activities that could be carried out to demonstrate CA implementation and challenges that pre-service teachers would face when implementing CA in the schools. For example, the meaning of CA was captured as a systematic procedure of determining the progress learners were making through continuous monitoring and evaluation of lessons during instruction by using a variety of procedures to improve learning. The participants were not only able to explain activities that a teacher should do when implementing CA but also mentioned the importance of CA in the teaching and learning processes. In addition, the lecturers provided the advantages of CA by indicating that CA provided an idea of learners' understanding of the content as teaching and learning progresses. This makes it possible for the teacher to detect challenges learners are facing

and offer solutions to the challenges immediately they emerge unlike when once off-examinations are conducted. Lecturers were also able to indicate how they used CA (see chapter 5). They also emphasised the need for the pre-service teachers to implement CA as the only sure way for determining the effectiveness of an instruction. Moreover, the finding that forty-nine out of fifty-one survey participants underwent CPD in CA might be responsible for lecturers' CA knowledge base. These findings were also corroborated by the SMEs from DIAS who indicated that they organised continuous assessment CPD in all public TTCs at the request of the department of teacher education and DTED.

In addition, the research findings suggested that all the lecturers had positive attitudes towards CA implementation as almost all of them indicated that they would encourage pre-service teachers to implement CA in the schools. Truit (2011) suggested that there seems to be a positive relationship between an individual's positive training experience and attitudes. The training that the lecturers had through CPD in CA might be responsible for the lecturers' positive attitudes towards CA.

However, the responses to the open ended questions on the questionnaire, lecture room observations and debriefing sessions carried out immediately after lecture room observations, indicated a dissonance between their knowledge, attitudes and level of classroom practice during instruction. The lecturers indicated that they were either not demonstrating what they taught or not providing opportunity for pre-service teachers to practice implementing CA elements learned within instruction.

### **7.3.2 Current content and pedagogical strategies**

The second sub-question was: "How do the current content and pedagogical strategies utilised in TTCs support CA implementation?" The section that follows presents the summary of the findings to the question.

In order to understand how pre-service teachers were being prepared for CA implementation, it was considered necessary to examine the pedagogies that lecturers were using as these teachers for CA implementation in the schools, and to determine if the pedagogies supported CA implementation. In order to answer that research sub-question, data was collected through some open-ended questions of the questionnaire from fifty-one participants and from lecturer room observations (n= 22).

The study findings have revealed that the current content and pedagogical strategies in TTCs did not effectively support CA implementation in the primary schools because they were more theoretical than practical. In other words, the lecturers were able to deliver the content but

they did not include demonstration and practice phases within their lessons' delivery. This was seen as a weakness and a source of dissatisfaction with their own pedagogical approaches. The majority of the lecturers reported lack of satisfaction with their own teaching strategies for CA implementation. They identified lack of time to implement activities such as *demonstrations*, and to give the pre-service teachers opportunities to *practice* what they had learned on how to implement CA.

During the observations, only one lecturer demonstrated what he was teaching, and asked the pre-service teachers to practice what he had taught them. Similar findings were also found in Tanzania (Vavrus, 2009). The lecturers' classroom instructional strategies did not demonstrate the lecturers' intention to equip the pre-service teachers with relevant knowledge and skills for CA implementation in the primary schools. It would appear that the CPD in CA that the majority of the lecturers attended just equipped the TTC lecturers with the knowledge and skills on how to implement CA at the college as part of the requirement for student assessment; but did not equip them adequately with the knowledge and skills on how they could prepare primary schools teachers so that they too could ably implement CA in their primary schools. In other words, the lecturers had the right CA content knowledge (CACK) but lacked CA pedagogical content knowledge (CAPCK).

Lecturers did not demonstrate CA concepts, and how to integrate them into teaching and learning contexts. There was also no opportunity for learners to deliberately practice what they had just learned during instruction. According to Ericsson (2008) deliberate practice (DP) enhances competence and performance. Accordingly, lack of it leads to lack of expert performance. No wonder Joyce and Showers (1995) suggested that demonstration and DP were some of the training components that could lead to effective teacher learning which could then support the intended change and transfer into classrooms. Lecturers' failure to incorporate these training components was not because of a lack of knowledge or familiarity with the methods; but rather, because of their belief that it was time consuming and could lead curriculum undercoverage. It can, therefore, be said that curriculum requirements and external pressure from MANEB have acted as barriers to using those training components.

To this end, the research findings suggested that the instructional procedures lecturers used to teach CA were wanting. While integration of teaching/learning and assessment are considered central in PCAR, this kind of emphasis was not evident in the way lecturers delivered their lessons.

However, the lecturers did not only indicate their dissatisfaction with their strategies they used but also made suggestions for improvement. This finding resulted in the decision to try to

understand the characteristics of an effective pedagogy that the lecturers could use when preparing school teachers for CA implementation in the schools.

Lecturers' use of relevant instructional pedagogies that satisfied the requirements for CA implementation would be able to assist the pre-service teachers to acquire CA knowledge and skills necessary for its implementation.

In order to provide relevant training, Koloji-Keaikitse (2016) maintains that intensifying assessment training has remained a very important aspect to teachers' classroom assessment practices. One such form of assessment training, as the study findings suggest, could take the form whereby lecturers would model a variety of methods during instruction. Modelling is considered vital because it would assist the pre-service teachers not only to have conceptual understanding but also observe how aspects of CA could be implemented in a classroom settings.

### **7.3.3 Instructional strategies**

The third sub-question was: "How can the instructional strategies that lecturers use when preparing pre-service teachers for CA be improved?" The section that follows summarises the findings to the above question.

To address this question, design research was used. One advantage with design research is that it seeks to find solutions to complex problems (Plomp, 2013). As a way of finding solutions to CA implementation issues, both lecturers and SMEs became participants in the study, and made their contributions on how this could be improved. The lecturers were asked what they would have loved to change in the way they prepared the pre-service teachers for CA implementation. In addition, a synthesis of lecturer observation data pointed towards how the instructional pedagogies which were currently being used could be improved. In addition, data from SMEs oral interviews on what a primary school teacher should know and do when implementing CA clearly indicated the need to use instructional procedures which could accommodate *demonstration* and DP as a way of improving the problem at hand. To identify a teaching strategy that incorporated demonstration and DP as phases during instruction, a literature review of effective pedagogies was carried out. Taking into account the findings from the baseline survey and considering what the literature indicated on effective instructional practice, it emerged that the instructional pedagogy that TTC lecturers could use to prepare teachers for improved CA implementation could be based on the DP pedagogies which could take the form of direct instruction (DI).

Based upon the needs analysis, the literature and after questioning and observing lecturers, a promising model emerged which addressed the criteria for an effective pedagogical strategy (see Figure 6.5) which was iteratively designed, developed, and formatively got evaluated through three prototypes (see sections 6.6; 6.7 and 6.8 respectively). The instructional pedagogy that emerged by taking into account what the lecturers and SMEs had suggested, and what the literature review indicated on effective teaching strategies, suggested that the instructional strategies that lecturers used in the TTCs for CA implementation could be improved by adopting a teaching model similar to the DI which should be based on the DP model.

This instructional pedagogy has been abbreviated as PPDPE which stands for *Plan, Present, Demonstrate, Practice* and *Evaluate* as the strategic pedagogy. The model encourages the lecturers to be seen deliberately moving from one phase to another linearly with the exception of *evaluate* which should occur at each phase to enhance CA knowledge and skills acquisition and transfer. The lecturers should deliberately enact all the phases of the pedagogy purposefully.

The SPI has been informed by deliberate practice (DP) theoretical framework which aims to improve and equip the pre-service teachers' with competences and performance of CA implementation through demonstrations, practice and evaluation. As students observe their lecturers' demonstration, they are likely to gain confidence which will be enhanced through their own practice while in the TTCs. The evaluations will assist them to critically think about best course of actions.

#### **7.3.4 Strategic pedagogy**

The fourth sub-question was: "How does the use of the strategic pedagogy affect the lecturers' instructional practices and pre-service teachers' CA implementation in the schools?" Accordingly, the section that follows summarises the findings to the research sub-question.

The study set out with the assumption that, TTC lecturers' use of effective pedagogies for CA would enhance pre-service teachers' ability to implement CA better in the schools. Firstly, it was noted that in the conceptual framework there were other external or contextual factors that could impact negatively and/or positively teachers' ability to implement CA in the schools. Some of the factors noted were school leadership; the nature of support from other teachers; class sizes; resources provision and effective monitoring and evaluation. To determine how strategic pedagogy affected the teachers' ability to implement CA in the schools, these factors were held constant well knowing that it was impossible to deal with all them within the scope of this study. In order to get a feel of the impact of the strategic pedagogy on the lecturer's



instructional procedures as well as on the pre-service teachers' ability to integrate teaching, learning and assessment in their lessons, feedback was obtained from the critical friends (see section 6.7.3.3) and the two lecturers that implemented the model. This feedback concerned their experiences with the SPI and the expected impact it would have on the pre-service teachers ability to implement CA in the schools (see section 6.9). Quality criteria of practicality and expected effectiveness was used when determining the impact of the model.

The feedback obtained from the two lecturers who implemented the SPI suggested that this SPI (see chapter six) was relevant, practical and effective (see section 6.9). The implementers' familiarity with most of the phases in the SPI increased its relevance, consistency, practicality and expected effectiveness. The feedback obtained also demonstrated that use of the SPI had the potential to improve pre-service teachers' knowledge and skills acquisition and transfer of CA (see section 6.9).

As the lecturers demonstrate some aspects of CA and allowed them to practice during the lecture, it would not only accord them an opportunity to watch what a particular aspect of CA was like but also learn how to implement it in practice. They also indicated that the strategic pedagogy had the potential to improve the quality of education in Malawi although this was not elaborated well. This observation though may not really indicate that the lecturers would wholesale adopt the strategic pedagogy immediately as there are a number of studies that report positive feedback to interventions but with little or no adoption/diffusion. A case in point is the Strengthening the Teaching of Mathematics and Science Education (SMASSE) Project in Kenya (Ndirangu, 2013). However, as was suggested earlier in Chapter six (Section 6.6), the overall success of the intervention will ultimately depend, amongst other factors such as institutional leadership; political will and effective communication of the intervention, and all the support teachers may receive from various educational stakeholders.

As regards the impact of the strategic pedagogy on the pre-service teachers' ability to implement CA in their classrooms, it needs to be acknowledged that one way of measuring the impact of the effectiveness of the strategic pedagogy was to determine pre-service teachers' ability to integrate teaching/learning and assessment processes in the classrooms. The assumption of the study was that improvement in the instructional procedures that lecturers used as they prepared pre-service teachers for CA would improve the teachers' CA implementation classroom practices. However, as reported elsewhere, it was not possible to make this connection between the findings of the intervention and the teachers' ability to implement CA in the actual primary schools for two reasons. Firstly, it was not feasible to carry out such an evaluation in the schools where the pre-service teachers were deployed for teaching practice. Secondly, as indicated in the conceptual framework, effective CA

implementation in the schools can be impacted by contextual factors such as school leadership; resource availability; effective monitoring and evaluation and the support from other qualified teachers, and these could unfortunately not be isolated from the intervention. It is however possible, in another study to assess the impact of the strategic pedagogy on the pre-service teachers' ability to integrate teaching, learning and assessment while taking into account the contextual factors. A quasi-experimental research design could be used to compare between the pre-service teachers who were taught at the TTC using the strategic pedagogy and other pre-service teachers who were taught using other pedagogies.

These aside, based on the feedback from the lecturers who implemented the strategic pedagogy, it was clear that by deliberately presenting lectures that included demonstration, practice and evaluation, there was a high likelihood for teachers to ably implement CA in the primary schools as required by PCAR. In addition, it was revealed that the demonstration and practice phases would increase the pre-service teachers' familiarity with CA implementation approaches which would then enhance knowledge and skills acquisition and transfer of CA into the schools. In other words, the study established that there was some expected effectiveness of the strategic pedagogy but not the actual effectiveness.

### **7.3.5 Characteristics of a strategic pedagogy**

What are the characteristics of a strategic pedagogy that lecturers in pre-service primary teacher education in Malawi could use for continuous assessment implementation?

The previous section presented the summary of the research findings according to each research sub-question. The main research question sought to determine the characteristics of a strategic pedagogy that lecturers in pre-service teacher education in Malawi could use for continuous assessment implementation.

This section presents the characteristics of the strategic pedagogy for pre-service teacher education for CA implementation in response to the main research question. This was informed by the baseline findings, (see 5.3.4), and the extensive literature reviews for a theoretical framework to situate the strategic pedagogy (see section 6.2). This then led to the direct instruction (DI) which responded to the lecturers' and SMEs needs as the preferable instructional procedure. These alongside the design guidelines for the strategic pedagogy (see section 6.5), contributed to the design and development of prototype one (see section 6.6 and *Figure 6.3*) which was later improved based on the feedback to prototype two (see section 6.7 and *Figure 6.4*). Prototype two was further improved again to prototype three (see section 6.8 and *Figure 6.5*) and this is where the characteristics of the strategic pedagogy emanates. The section below illustrates the characteristics.

Based on the baseline findings (chapter five) and the design, development and formative evaluation of the strategic pedagogy as an innovation and intervention (chapter six), the characteristics of the strategic pedagogy for CA implementation could be said to take the form of Plan, Present, Demonstrate, Practice and Evaluate (PPDPE).

It is based on deliberate practice (DP) theoretical framework (Ericcson et al., 1993; Ericcson, 2002; 2003; 2008) and is aligned with DI (Rosenshine, 1995). This implies that all the phases of the strategic pedagogy should be deliberately enacted in order to achieve the goals of instruction which are knowledge and skills acquisition and transfer. In addition, it is situated under the DI whereby the lecturer should organise and direct the phases of the strategic pedagogy. Thirdly, the cyclic process of the strategic pedagogy places a greater emphasis on planning for its successful implementation. After careful planning, the other phases of presentation, demonstration, and practice should be implemented. Evaluation is the last aspect of the strategic pedagogy though not necessarily the last one. Thus, evaluation should take place at each phase through formative evaluation and summative evaluation at the end of instruction. Evaluation determines what and to what extent each of the phases are implemented. Its success depends on the lecturers' ability to reflect on what they are doing and what they intend to do. Knowledge of reflective teaching skills is therefore considered paramount. The following are the characteristics of the strategic pedagogy:

### **Planning**

The initial characteristic of the strategic pedagogy is planning. This requires TTC lecturers to plan thoroughly for all the phases of the strategic pedagogy. In addition, planning should include the continuous assessment content (CAC); how the CA content will be taught (CAPCK); the resources needed for effective delivery; the tasks and activities to be implemented for both guided and unguided practices; and the different types of evaluation that will be actually done. Planning phase is vital for the successful implementation of the strategic pedagogy.

### **Presentation**

The second characteristic of the strategic pedagogy is actual delivery of what was planned. This characteristic entails the lecturer actually presenting the planned lesson. The lecturer should present the aspect of CA to the pre-service teachers where the focus is on the description of the aspect of the CA. The presentation can embody both lecturer directed where the lecturer tells the pre-service teachers what the CA aspect is all about, and student-

centred for active pre-service teacher involvement. Pre-service teacher involvement during this phase is aimed at enhancing knowledge and skills acquisition.

### **Demonstration**

The third characteristic of the strategic pedagogy is demonstration. After the lecturer has presented the aspect of CA, the next stage is the demonstration to the class. Demonstration requires that the lecturer should show what is being taught about CA or deliberately demonstrate how to implement an aspect of CA. For example, if the lecturer was teaching assessment tools, the demonstration could be either showing the pre-service teachers one or demonstrating how to develop and use it. During the demonstration, pre-service teachers should observe the demonstration or be involved in the process of demonstration. Effective demonstration depends on careful planning and creativity on the part of the lecturer regarding what to demonstrate and how to demonstrate it. The demonstration should be done at the right time in the lecture room. For effective demonstrations, the lecturer should try it out before the actual demonstration.

### **Practice**

The fourth characteristic of the strategic pedagogy is practice. In this phase, the lecturer should develop activities related to the topic that will require the pre-service teachers to practice. Pre-service teachers should be given a chance to practice each aspect of CA they have learned during the college based training. This practice does not replace the teaching practice but complements it. Practice of how to either develop or implement CA can be conducted through exercises, practical work, demonstrations and exercises. In line with the DI and the DP, it should be either guided or unguided; individualistic or group activity. The practice activities should be those that foster knowledge, skills and values acquisition and transfer, and should be aligned with the lesson topic.

### **Evaluation**

The fifth characteristic of the strategic pedagogy is evaluation. As the model depicts that evaluation is at the centre, it implies that evaluation should occur at each phase. Various types of evaluation can be conducted at each phase. For example, during the planning phase, diagnostic evaluation can be carried out to determine the learning readiness of the pre-service teachers. This evaluation will help the lecturer to design the instructional strategy that will meet the needs of the pre-service teachers.

During the lesson presentation, the lecturer can carry out formative evaluation to determine the extent to which the lecture objectives are being achieved and also to determine the learning progress of the pre-service teachers. It is during this type of evaluation that misconceptions that the pre-service teachers might have will be identified and corrected.

Summative evaluation can also be done at the end of instruction to determine the extent to which the lecture objectives have been achieved. This evaluation focuses on the other four phases of the model. Essentially, evaluation whether, diagnostic, formative or summative is central to the effective implementation of the pedagogy as it determines what, when, why, where and to what extent each of the phases is implemented. Its success depends on the lecturers' ability to reflect on what they are doing, and what they intend to do. In order to achieve effective evaluation, knowledge of reflective teaching and critical thinking are essential.

## **7.5 Reflection on the research design and methods**

The previous section presented the characteristics of the strategic pedagogy for the pre-service teacher education for CA implementation. It highlighted the characteristics of the phases of the strategic pedagogy, and also issues to be borne in mind for successful implementation of each phase.

This section presents reflections on the research design and methods, (sub-section 7.5.1). Sub-section 7.5.2 presents a reflection of the conceptual framework used for the study, and sub-section 7.6.3 presents reflection on the role of the researcher.

### **7.5.1 Reflections on the research design and methods used**

As indicated in Chapters one, four, five and six, the study adopted design research as the research design. Design research was adopted because the goal of the study was to identify and improve a complex educational problem (see chapter three) for which apparently no solution was available. This fitted well with design studies (Plomp et al, 2013). As a design study, the research question was thus framed: **“What are the characteristics of a strategic pedagogy that lecturers in pre-service primary teacher education in Malawi could use for continuous assessment implementation?”**

Following this, operational questions (see Chapters one and four) were formulated which generally aimed at answering the main research question. As a design study, it had to go through a number of phases including baseline survey aimed at problem identification and assessing the need; intervention study which designed, developed, pretested, implemented and formatively evaluated the strategic pedagogy (Chapter six); and the assessment phase

which was not implemented as the study only sought expected practicality and effectiveness (Nieveen & Folmer, 2013). In order to achieve the purpose of the study, different participants were selected using different sampling procedures to participate in this study at different stages of the design, development and evaluation process (Barab & Square, 2004; Kelly, 2004; Plomp et al., 2013). The study was foregrounded in a collaborative effort with different stakeholders and practitioners, and was naturally cyclic as it went through a number of iterative cycles.

Before data collection, the study had to adhere to ethical considerations. These required seeking approval from the University of Pretoria Faculty of Education Ethics committee (see Ethics Approval). Once the ethics approval was granted, the researcher sought, in writing, access to the research site first from the gatekeepers such as the MoEST through DTED (see letter in Appendix D). Secondly, clearance was also sought from the South East Education Division (SEED) manager (see Appendix E1) and finally from the Principal of the TTC where the study was based (see Appendix E2).

In addition, access to stakeholders and participants was also sought and obtained from the leadership of the hosting institutions (see Appendix E). All research participants had to complete a letter of consent to participate in the study after receiving the letter of invitation to participate. The letter included information about the nature of the study and what it sought to achieve as well as what the participants were expected to do. It also contained sections on issues of confidentiality and anonymity as well as allowing participants to withdraw at any stage without any consequences. The participants had to sign the letter of consent before participating in the study.

Throughout the study, the researcher maintained the role of researcher and observer and did not disrupt the college activities. However, the presence of the researcher in the lecture room could also be a kind of Hawthorne effect (Zimbardo, 2007a as cited in Cohen, Manion & Morrison 2011, p. 66) as the lecturers had to teach whilst knowing that there was a researcher in their presence.

Furthermore, the study adopted the pragmatic research paradigm as it desired to use mixed methods approach during the baseline survey. Data was later collected using questionnaires, classroom observations, debriefing sessions, a daylong seminar, and oral interviews. The use of different data collection tools assisted in attaining methodological triangulation (Cohen, Manion & Morrison, 2011, p. 196; Denzin, 1970).

As the study collected both quantitative and qualitative data, it also utilised both quantitative and qualitative data analysis techniques.

The findings of the baseline study and literature review assisted in designing, developing and evaluating a strategic pedagogy for CA implementation. Using a mixed methods approach was an enriching experience as weaknesses of one approach were improved by using the other approach. Again it helped in triangulating the findings. For example, the questionnaire findings of the study revealed that the lecturers were knowledgeable and had a positive attitude towards CA. In addition, the findings revealed that they also practiced most of the aspects of the CA and provided an opportunity for the pre-service teachers to practice CA implementation. However, the lecturer room observations (qualitative data) provided contrary results to what the quantitative data findings suggested. It can be said that the mixed methods approaches assisted in getting a better understanding of the phenomenon under study. The mixed methods approach also enabled the researcher to obtain a deeper understanding of how pre-service teachers were being prepared for CA implementation as well as for designing, developing and formatively evaluating the strategic pedagogy.

It needs to be pointed out as well, that the findings of this study can only be generalised to the very specific context where the study was carried out due to the limited sample size. In other words, these findings should be treated as “work in progress” (Cohen, Manion & Morrison, 2011, p. 243). Plomp (2013) warns that generalisation in design research, just like in case studies and experimental studies, can only be done if such studies have been replicated several times in various contexts (Plomp, 2013). This view is also supported by Yin (2003). With the current study, there is need for the findings and the strategic pedagogy to be tested in other contexts before any generalisations can be made.

Throughout the study a number of lessons have been learned with particular reference to the design of the study. For example, during the first meeting with my supervisor where she asked me about my thoughts about my study, I indicated to her that I wanted to do a conventional educational research study whereby I could collect data, analyse it and interpret the findings on how TTC lecturers prepared primary school teachers for CA implementation in the schools. However, my supervisor asked me one important question, “What next?” It took me some time before I answered her. When she suggested that I use design research as the research design, I was reluctant at first because I knew that I was going to engage myself for four years in unfamiliar terrain.

When the “journey in the mad” actually commenced, I could see that the journey was going to be rough and tough. However, the support I received along the way enabled me to get this

far. It is important that all supervisors should provide all the necessary support to their students since their success is also the success of the supervisors.

Through the research journey, I have learned that, through design research, the researcher moves forward and backwards. The proposal development and defence can be exciting but the researcher is still not yet aware of the kind of intervention he/she will need. After the baseline findings, the researcher needs to engage into a creative gear in order to identify the kind of interventions to introduce. This can be gleaned from the baseline findings and literature review.

The implementation of the whole research requires an individual with sound interpersonal relations and effective communication skills to negotiate with the participants. I observed that although design research is done collaboratively with participants, the researcher leads all the activities by suggesting to the participants what is to be done next, and how it is to be done (see the section that follows). However, the participants have their commitments too besides participating in the study. In such cases, the researcher had little influence regarding the pace at which research activities are implemented. Here, it calls for the researcher to be patient with the participants.

However, one advantage with design research is the final product or the outcome after successfully implementing the study. The researcher feels that he/she has made a tangible contribution not only to knowledge but also to practice. Design research contributes to theoretical and practical knowledge. The theoretical knowledge contribution is through the processes involved in the study as well as the design principles generated. The practical knowledge contribution is seen by designing, developing and formatively evaluating the intervention as a solution to a complex education problem. In order to succeed, the researcher should be innovative and creative. As can be seen in Figure 6.5, most of the phases in the strategic pedagogic model are indeed obvious and represent principles of good teaching. However, for some reasons, they are either neglected or omitted by teacher educators and teachers alike despite their usefulness. It required the researcher to include “strategic” to underscore the fact that the pedagogy was not entirely new hence aligning it with the deliberate practice (DP).

The outcome of this study is the Strategic Pedagogy for primary teacher education for effective CA model that has the potential to help pre-service teachers appreciate what it really means to implement CA in the schools. This is possible through seeing what their lecturers are doing during presentation, demonstrations, practices and lesson evaluation. The pedagogy also re-enforces the saying



“Tell me, I’ll listen; show me, I’ll understand; involve me,

I’ll learn”. Teton Lakota Indian

The SPI takes care of all the three as the lecturer, during the presentation phase, teaches the pre-service teachers the content, the pre-service teachers listen. During the demonstration phase, the lecturer shows the pre-service teachers what he/she was presenting which contributes to their understanding of the concepts. Finally, the lecturer involves the pre-service teachers into the practice phases which could either be guided or unguided. Moreover, the model advocates for participatory teaching approaches through learner/lecturer interactions during presentation, demonstration, practice and evaluation phases.

Importantly, the collaboration with the lecturers at the research site during the design, development and formative evaluation and feedback as the study progressed from baseline study, intervention and implementation and assessment phases, resulted in an unexpected outcome. During the summative evaluation of the SPI, there was evidence that some members from the teaching practice committee who participated during the try-out of prototype two as critical friends, immediately used the ideas of the strategic pedagogy they learned. It was discovered that the teaching practice team facilitated a seminar on best teaching practices which focussed on the phases of the strategic pedagogy. Thereafter, the lecturers oriented all the pre-service teachers in the strategic pedagogic approach for a week. The lecturers oriented the pre-service teachers how to present a lesson by following the steps of the strategic pedagogy. It was also learned that pre-service teachers’ assessment during teaching practice was based on their ability to incorporate the phases of the strategic pedagogy. This clearly demonstrated the importance of introducing an intervention by working with the “would-be” implementers of the intervention.

However, design research has its own challenges. On some occasions, it was impossible to implement other scheduled research activities because the lecturers were busy with college activities. Such activities were rescheduled thereby delaying the whole research processes. For example, the study had initially identified six lecturers to be involved in design, development, try-out and evaluation of the strategic pedagogy but only two were able to implement it as the other four lecturers were committed to other college and personal responsibilities. All in all, design research was seen as a better approach as it attempted to offer a solution to the CA problem.

### **7.5.2 Reflection on the Conceptual Framework for the Study**

The study was initially guided by the conceptual framework (Figure 3.2) which was informed by the Systems Theory which took the form of input-processes (activities)-outputs. The Systems Theory stipulates that a system is an integrated whole, and any change in one part of the system will affect or influence the other part (von Bertalanffy, 1968; Hanson, 1995; Adams, et.al, 2013). Based on that understanding, the conceptual framework comprised three parts. These were lecturer contextual factors which comprised college environment, lecturer knowledge domains and lecturer competencies and practices which were considered as inputs. The process in the model is the instructional process represented by the instructional procedures/strategies that lecturers adopted and used as they prepared pre-service primary school teachers. Finally, school and classroom contextual factors acted as the filters that interacted with the instructional process to obtain effective CA implementation in the schools as the output. From the framework (Figure 7.1), the strategic pedagogy, as an innovation and intervention is the new aspect that distinguishes it from Figure 3.2 which the study generated.

In the conceptual framework, the pre-requisites for effective CA implementation were considered to be the knowledge domain factors which were identified as lecturer knowledge domains that interacted with college environment and lecturer competencies and performance. As has been observed in the study, for effective CA implementation to occur in the schools, it was dependent upon lecturers' appropriate CA content knowledge and CA pedagogical knowledge which were supposed to be supported by the use of appropriate instructional pedagogies. However, it was also conjectured that the presence or absence of a supportive school environment could either support or prevent effective CA implementation despite the favourable lecturer contextual factors and effective instructional processes. The pre-service teacher competencies and performance may be impacted upon by the school quality and the support and effective monitoring and evaluation they experience.

The use of the conceptual framework helped the researcher in implementing major phases of the study. For example, the baseline survey explored the lecturer contextual factors by examining the knowledge, attitude and practice of CA that the lecturers possessed, and the instructional strategies they utilised as they prepared pre-service teachers for CA implementation. Feedback from the survey revealed that the instructional procedures that they used were not robust in enhancing knowledge and skills acquisition and transfer for CA implementation in the schools. This finding was considered by the researcher as the major factor responsible for teachers' inability to effectively implement CA in the schools. However, as the study did not go as far as establishing actual effectiveness in the primary schools, it would be premature to say that the conceptual framework adequately assisted in carrying out

the study. The impact of the strategic pedagogy on the pre-service teachers' ability to implement CA in the primary schools was not established so neither were external factors that might impact on effective implementation of the strategic pedagogy analysed. The contribution of this study should be viewed in the design, and development of the strategic pedagogy which has shown to have achieved expected effectiveness.

Reflecting on the conceptual framework, it seems to suggest that it was a viable conceptual framework. The findings supported the idea that effective CA in the primary schools depended upon pre-requisite factors such as the lecturer contextual factors, instructional process factors and school and classroom factors. Through the use of the conceptual framework the study findings have revealed a weakness in the instructional procedures that lecturers used as they prepared the pre-service teachers for effective CA implementation. The instructional strategies that the lecturers used did not adequately empower the pre-service teachers to be able to effectively implement CA in the primary schools. However, as the conceptual framework had two different contexts, namely TTC context and school context, it was difficult to work in these two environments within a single study. It would, therefore, be ideal if the conceptual framework guided the research in one context; that is, the teacher training context. The assessment of the effectiveness of the intervention should be carried out at the TTC. All in all, the framework assisted in confirming the initial assumption the researcher had about the reasons for the unsatisfactory CA implementation in the primary schools. Bringing the pieces together produces the final conceptual framework as shown in Figure 7.1.

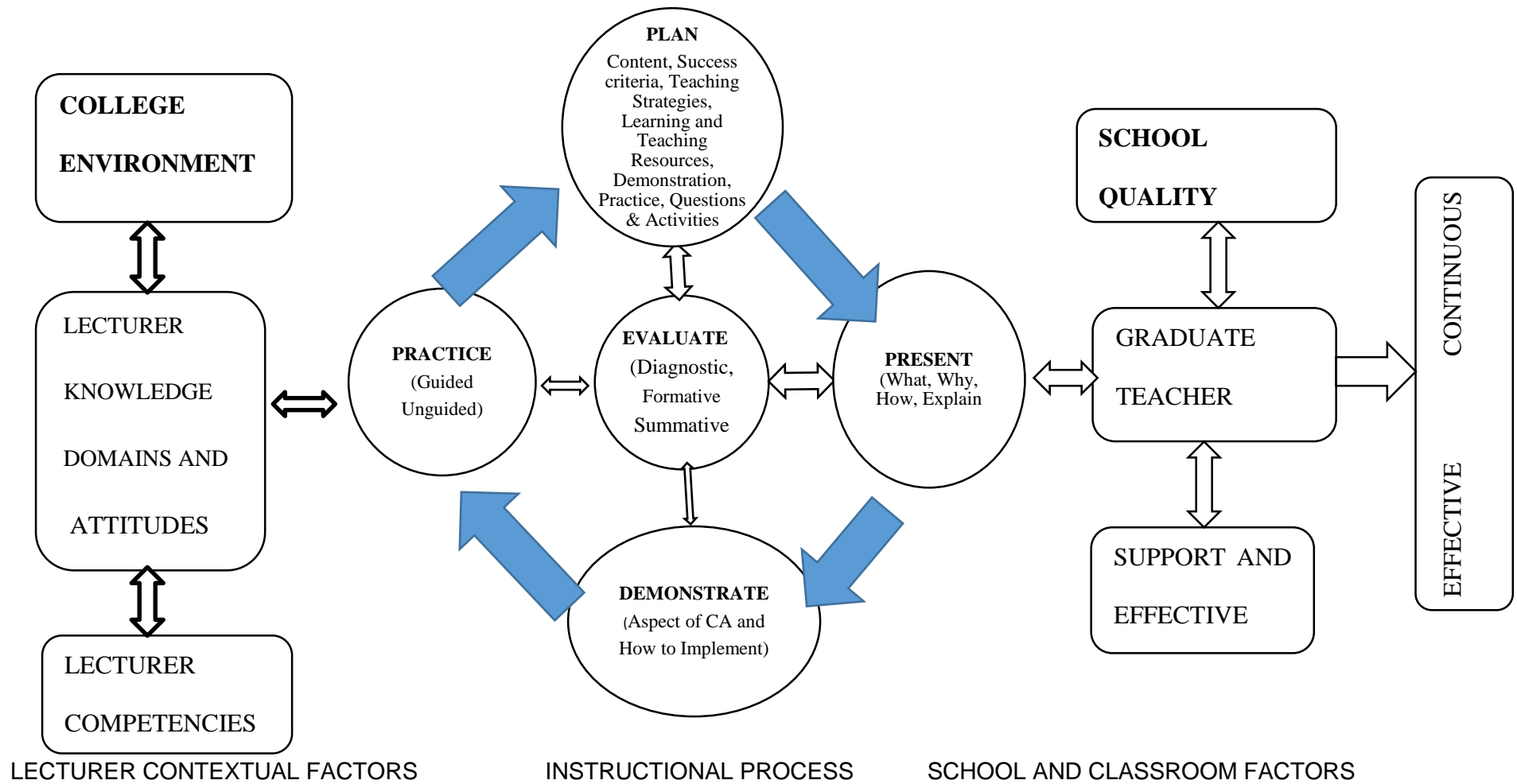


Figure 7.1: Final conceptual framework for the Strategic pedagogical pre-service intervention for the effective implementation of continuous assessment in primary education

### 7.5.3 Reflecting on the role of the researcher

The previous section presented the reflections on the conceptual framework used for the study which indicated that it was found to have guided the research process to a great extent. The section that follows presents the reflection on the role of the researcher.

Arzubiaga et al., (2008, p. 323) remind researchers “to engage systematically in critical self-reflection in order to embrace “epistemic reflexivity” (Bourdieu & Wacquant, 1992 as cited in Arzubiaga et al., 2008, p. 323). It is on this basis that this section presents the role of the researcher that focuses on what triggered the research problem, and how the study was approached and the roles taken.

In the first place, the researcher is a teacher educator with fifteen years of active teacher education. While teaching about CA and examining the students’ experiences with its implementation, it was revealed that teachers were not implementing it as was required in the curriculum despite some being oriented and others being taught through IPTE using a curriculum that was aligned with PCAR. This scenario sparked the problem for the study. The researcher, as a teacher educator assumed that the role of teacher education was to prepare teachers for their world of work. If teachers were not doing what they had been prepared for, then what was the role of teacher education? When an opportunity arose to study for a PhD, the researcher felt that it was an opportunity to explore how teachers were being prepared for CA implementation. In the process, it turned out that it would make more sense to introduce an intervention regarding the pedagogies that TTC lecturers could use for pre-service teacher education for CA implementation.

The role of the researcher is more pronounced in qualitative than in quantitative research (Simon, 2011). In qualitative research, the researcher is considered as the instrument of research (Denzin & Lincoln, 2003). As qualitative research is considered more subjective than quantitative research, it is important for the researcher to employ strategies that will enhance the trustworthiness of the study. As the study was a mixed method approach, it combined both qualitative and quantitative research methods. In doing so, the researcher played multiple roles as an investigator, designer, developer as well as evaluator of the prototypes. Fulfilling these roles enabled the researcher to interact with the TTC lecturers and SMEs who provided insights about the problem under investigation which helped in the design, development, and evaluation of the intervention. This assisted in coming up with an intervention and design principles and guidelines (Cobb et al., 2003; Collins, Joseph & Bielaczyc, 2004; Gravemeijer & Cobb, 2006; Plomp & Nieveen, 2007; Plomp & Nieveen, 2013) which could then have a high

chance of being adopted as they emanated from the people who had direct experience of the problem.

For the quantitative part, the researcher developed and piloted the questionnaire. The development part involved adapting, adopting and generating items on the questionnaire (see Table 4.2). Piloting of the instrument was aimed at testing its usability in order to enhance the validity of the data inferences. Before the administration of the questionnaire, the researcher briefed the prospective participants about the nature of the study and what the researcher expected from them. The college administration assisted with the administration of the questionnaires. This was done to ensure that data was collected more objectively. Ethical issues were taken into consideration by paying special attention to issues of protection of human subjects. All the research participants were invited in writing to participate in the study voluntarily, and were informed that they could withdraw at any point in the study without any consequences.

This implied that all the participants were not forced in any way to participate in the study. The participants signed a consent form before completing the questionnaire. The questionnaire data was initially cleaned and captured by a specialist but the work was of poor quality, and was later captured by the researcher. The data was then thoroughly checked by the supervisors. This was done to enhance its validity.

The qualitative data was collected through interviews, observations and collaborative activities in the design, development and evaluation of the successive prototypes. In the process of data collection, it was important in the first place as researcher to identify myself with the participants as a researcher and not as a lecturer. This was necessary because the researcher taught some of the research participants when they were doing their undergraduate studies. Familiarity with the researcher could have acted as a double-edged sword. In the first place, the researcher could receive maximum support from the participants or this familiarity could affect the reliability and validity of the data collected as it could be possible for participants to perform certain tasks just to please their "former lecturer". My interaction and impact with some of the participants as students could not easily go unnoticed.

To overcome the "observer paradox", (Labov, 1972) contend that the researcher should maintain the role of the researcher. For example, the researcher avoided interrupting any activities at the research site during lecture room observations despite some noticeable mistakes that the lecturers were making during lesson presentations. Since the researcher was the main qualitative data collection instrument, it was imperative to be sensitive, and

receptive to whatever changes that occurred during the entire study to maintain the nonparticipant observer status (Patton, 1990) to avoid influencing the outcomes of the study.

As design research is done in phases with the same or different research participants, the role of the researcher during the whole research process varied in each phase. For example, during the needs analysis phase or baseline phase, the role of the researcher was that of instrument developer and refiner, instrument administrator, data cleaner, capturer, transcriber as well as data analyst, evaluator and interpreter. During the intervention phases, the role of the researcher was that of designer, developer and evaluator. The researcher played other roles as debriefer prior to the study as well as after the lecturer room observations. In addition, the researcher played other roles such as facilitator during the day-long seminar. These multiple roles enriched the researcher's experiences in both quantitative and qualitative research methods through design research. Although the study was situated in the primary teacher education context, it enabled the researcher to indirectly research own practices as a teacher educator whose findings will shape the researcher's instructional procedures.

## **7.6 Research conclusions**

The previous section presented reflections of the research that included reflecting on the research approach, conceptual framework and the role of the researcher. This section presents the research conclusions.

The study sought to find a solution to the continuous assessment implementation problem that was apparent not only in Malawi but also in other SADC countries and beyond. As stated in chapter one, the impetus to carry out this study emanated from teachers' inability to implement or only partially implementing CA in the schools despite being either oriented or trained on how to integrate teaching, learning and assessments.

The other worrisome aspect was the fact that even recent graduates from pre-service teacher education institutions who were being trained using the IPTE curriculum that was aligned with PCAR, faced similar CA implementation challenges. Although literature presents a number of factors that try to explain why teachers do not implement CA effectively (see chapter three), teacher preparation for CA implementation was not mentioned as one of the factors. Despite the fact that this was not only a local but a global problem, there was still no adequate literature, which attempted to determine how the pre-service teachers were being trained for CA implementation let alone sought a solution to the CA implementation problems. However, this study postulated that the quality of teacher preparation in initial teacher preparation programmes had a critical role in teachers' ability to implement CA in the schools. The study, therefore, set out to achieve two aims. Firstly, to understand how lecturers in teacher

education programmes actually prepared pre-service primary school teachers for CA implementation. Secondly, the study aimed to identify the characteristics of a strategic pedagogy that lecturers in TTCs could use for effective pre-service teacher preparation for CA implementation. The philosophical question that this study sought was “What kind of strategy should it be and how can it be enhanced? A related question at the confluence of epistemology and pedagogy, is how would the pre-service teachers acquire that knowledge? (See 1.4). In this thesis the position is taken that learning requires affirmation and continued reinforcement as evidenced in the PPDPE strategic pedagogy advanced.

This section presents and discusses the conclusions that have been drawn from the study and reflections from the literature. The following are the conclusions drawn from the study.

- ❖ **Teacher Training College (TTC) lecturers were knowledgeable of and had positive attitudes towards continuous assessment content knowledge but lacked appropriate expertise in putting that knowledge into practice when preparing pre-service teachers for CA implementation**

In order for the lecturers to be able to prepare the pre-service teachers for CA, they are supposed to possess relevant knowledge and positive attitudes towards its implementation. Relevant knowledge is considered essential as it is impossible to teach someone without the knowledge of what to teach. In addition, attitudes act as the driving force for our actions. People with positive attitudes strive hard to accomplish challenging tasks. In this study, it was clear from the participants’ responses to the KAPCA questionnaire (see section 5.3.2) that they were knowledgeable about issues of CA as they were able to define CA and its associated concepts; explain its importance, and describe the requirements and activities that a teacher could be doing as evidence of implementing CA. In addition, the majority valued the role of CA in the teaching and learning processes indicating positive attitudes to its implementation. They were also able to identify the challenges pre-service teachers would face when implementing CA. For example, they mentioned contextual factors such as large class sizes, resistance from other qualified teachers and resource constraints. They were not only able to identify the constraints but also indicated measures they would put in place to equip the pre-service teachers with knowledge and skills to overcome the challenges by providing both instructional support (see section 5.3.2.4) and administrative support (see section 5.3.2.5). Furthermore, the lecturers appeared to display a positive attitude towards CA implementation (see section 5.3.2.6). For example, besides high endorsements on the items that sought lecturers’ attitudes, they also indicated that they would encourage their pre-service teachers to implement CA in the schools as it was the surest way to improve student learning.



However, the lecture room observations did not demonstrate that the lecturers' knowledge of and attitude towards CA reflected their lecturer room practices (see section 5.3.3). Lectures were dominated with chalk and talk, group tasks that were followed by plenary sessions where different groups presented before the class the tasks they worked on. After the presentations, other group members sought clarifications on the presentations.

Although none of the lecturers observed taught a concept on CA, the instructional procedure outlined above was felt inadequate in enhancing knowledge and skills transfer and practice for CA implementation (see section 5.3.3). As PCAR requires primary school teachers to implement CA, there was a need for the lecturers to demonstrate to the pre-service teachers how this should be done in their lectures. After demonstrating, they could also ask the pre-service teachers to practice how to implement CA aspects. The lecturers were supposed to emphasise the core aspects of PCAR in their approach to teacher preparation. However, the lecturers' own CA practices proved to be wanting (see section 5.3.2.7).

Lecturers' pedagogical content knowledge (PCK) has been considered as a characteristic of effective teachers (OECD, 2005; Shulman, 1987; Stronge, 2007). However, mere possession of PCK without enactment before learners is the same as not having it. It could be argued that the lecturers possessed the PCK but were not seen applying it in the preparation of pre-service teachers for CA implementation. In this case, the lecturers possessed *declarative* "knowing that" and not *procedural* knowledge "knowing how" (OECD, 2005). Effective lecturers were supposed to possess both CA content knowledge (CACK) and CA pedagogical content knowledge (CAPCK).

- ❖ **The pedagogies that lecturers deployed as they prepared pre-service teachers for CA implementation should be in consonance with PCAR requirements to equip the pre-service teachers with knowledge and skills necessary for effective CA implementation in the schools**

PCAR introduced two major aspects into the curriculum, namely: participatory teaching pedagogies and integration of teaching, learning and assessments (see chapter two). This has been observed as a paradigm shift from what teachers used to do. The baseline survey findings (see section 5.3.3) revealed that the pedagogies were weak as they did not reflect what the teachers would actually be doing in the schools. The pedagogies were too theoretical with limited practice which weakened the potential of CA knowledge acquisition and transfer to the schools which would result in ineffective CA implementation as required in PCAR. Considering the fact that pre-service teacher education has the potential to influence teachers

(Chai, Koh, & Tsai, 2010), TTC curriculum and pedagogies ought to be aligned with core aspects of PCAR in order to improve the situation.

❖ **Pre-service teacher education pedagogies do not reflect what the teachers will actually be doing in the classroom**

The findings of the study suggests that although lecturers were able to use participatory teaching approaches in their lessons, the majority were not satisfied with the pedagogies they used when preparing the pre-service teachers for CA implementation in the schools (see section 5.3.2, Figure 5.2). Among other reasons, the lecturers cited lack of practising CA implementation during college-based training. In addition, they did not demonstrate the same when it came to CA implementation (see section 5.3.4). In almost all the lecturers observed, they did not make a deliberate effort to show how the pre-service teachers could implement CA in the schools either by deliberately demonstrating how to integrate teaching, learning and assessment. Pedagogies that would deliberately demonstrate how to implement CA were said to be time consuming (see section 5.3.4), and could have derailed curriculum coverage in readiness for national examinations.

❖ **Teacher education institutions should review the pedagogies they use when preparing primary school teachers for continuous assessment implementation**

The findings of the study suggest that the instructional approaches that TTC lecturers used when teaching primary school teachers for continuous assessment were weak hence they needed to be reviewed so that robust pedagogies can be used to train pre-service teachers who can be effective in CA implementation.

Given the importance placed on CA not only in Malawi but also in other neighbouring countries, it is important to attend to the quality of the CA training and strategies used when teaching the pre-service teachers for effective CA implementation. Although student-teachers may not be regarded as experts (Berliner, 2004) as they were novices, appropriate pedagogies during training may enhance the student-teachers to move towards the expert stage in their professional development.

While it is generally agreed that time and experience are the dominant factors in the development of expertise, teacher preparation programmes should play a major role in facilitating the developmental path to expertise. Thus, the use of appropriate pedagogies during pre-service teacher preparation programmes can facilitate the development of expertise as Hammerness, Darling-Hammond, Bransford, Cochran-Smith, Mc Donald and

Zeichner, (2005) contended on the influence teacher training has on the development of the student-teachers.

In summary, there is need to use instructional strategies that would enhance knowledge and skills acquisition and transfer. The use of a strategic pedagogy in TTCs informed by the DP and the DI appears to be appropriate in improving pre-service teachers' preparation for CA implementation in the schools.

- ❖ **The characteristics of a strategic pedagogy for teacher education for preparing pre-service teachers for effective CA implementation should take the form of direct instruction informed by deliberate practice theoretical framework**

The study findings suggest that the characteristics of the strategic pedagogy that TTC lecturers could use as they prepare pre-service teachers for CA implementation in the schools should encompass the following phases: plan, present, demonstrate, practice and evaluate (PPDPE) (see section 6.9 with particular focus on 6.9.3.1; 6.9.3.2 and 6.9.3.3). Examining the pedagogies that TTC lecturers used as they prepared pre-service teachers for CA in the primary schools, provided an insight into how pre-service teachers were prepared for PCAR and CA implementation. One of the purposes in teacher education programmes is to train teachers who are competent in implementing PCAR. To achieve this, pedagogies that TTC lecturers when preparing school teachers are supposed mirror the pedagogies these school teachers will use in the classrooms (Hollins, 2011). The importance of effective teacher preparation for their world of work cannot be overemphasised. Teachers who feel better prepared for their work tend to aspire to grow and develop professionally (Darling-Hammond, 2000; Darling-Hammond & Ball, 2004). As noted by other scholars, TTCs must prepare the pre-service teachers by using pedagogies that characterise effective teachers (Darling-Hammond & Ball, 2004; Laczko-Kerr & Berliner, 2002; Rovegno, 1998). Research on teacher preparation methods aligned with classroom practices has been found to yield positive results (Ford & Wargo, 2006). It is thus important that the pedagogies teacher educators use when training school teachers for CA implementation should be aligned with what they will actually be doing in their respective classrooms.

## **7.7 Recommendations**

Section 7.6 presented the research conclusions. This section provides the research recommendations which have been arranged as follows: Section 7.7.1 presents policy related recommendations while section 7.7.2 presents educational practice related recommendations; and section 7.7.3 presents recommendations for further research.

### 7.7.1 Policy related recommendations

- ❖ **Teacher preparation for effective CA implementation in the primary schools requires policy review, change and a review of the IPTE curriculum to extend the college-based instruction to accommodate practice related activities**

Considering the fact that CA is a core element in the PCAR, efforts should be made to ensure that graduates from the TTCs acquire the competence and performance of CA implementation. Based on the findings, lecturers were of the opinion that a lot of time is needed for them to accommodate all the phases that the strategic pedagogy proposes. To achieve this, it is recommended that DTED should consider reviewing the IPTE curriculum so as to increase the period the pre-service teachers attend college based training.

In order to ensure that all lecturers in the TTCs attach great importance to CA and that pre-service teachers graduate with the competence necessary for CA implementation in the schools, it is recommended that policy direction is required to strategically improve CA implementation competence and performance by its inclusion in Teacher Education Standards. This should be accompanied by the enactment of a policy statement that requires that all teachers graduating from TTCs should be competent in both participatory teaching strategies and CA implementation which are the core values for PCAR.

There is also a need to review the policy on teaching practice. There is need to emphasise CA when evaluating students on TP. This should also be supported by putting in place effective monitoring and evaluation mechanisms by DIAS and MIE which must deliberately focus on how lecturers are actually preparing pre-service teachers for CA implementation, and how the teachers are actually implementing CA in their schools.

- ❖ **Primary curriculum reform should consider deliberately suggest instructional pedagogies that should enhance knowledge and skills acquisition for use in TTCs**

The data findings have revealed that TTC lecturers either lacked or deliberately ignored use of instructional strategies that would enhance knowledge and skills transfer for use by the pre-service teachers in the classroom when implementing CA. The study findings have revealed that the lecturers did not use instructional strategies which they felt were relevant but just rushed through to complete the curriculum in readiness for national examinations. Similar observations were made by Kamwendo, (2010) when he suggested that teachers did not use active learning pedagogies because they were time conscious and feared that they could delay completion of the curriculum.

In order to improve teachers' ability to implement CA in the schools, there is a need to improve the instructional pedagogies that TTC lecturers could use when preparing the teachers. The new PCAR was a paradigm shift from the objectives-based curriculum to OBE curriculum that introduced participatory teaching methods and integration of teaching, learning and assessments. However, no effort was made to suggest instructional strategies that the lecturers could use to enhance primary school teachers' knowledge and skills acquisition necessary for CA implementation. It would appear that the design and development of the PCAR assumed too much regarding the lecturers' abilities in preparing teachers for its implementation. Lack of clear direction regarding the pedagogies that lecturers could use, inevitably, resulted in poorly prepared classroom teachers.

**❖ Effective adoption of the strategic pedagogy in the TTCs requires policy review and change and a review of the IPTE curriculum to extend the college-based instruction to accommodate practice-based activities**

The study findings point to the fact that lecturers were hindered from doing what they knew was the appropriate instructional approach for CA implementation in the schools because of limited time to cover the curriculum and the demands of MNEB examinations. Though the strategic pedagogy is desirable, its adoption for implementation in the TTC would require a review of the IPTE curriculum and enact policies that would favour the strategic pedagogy. Some autonomy needs to be given to the TTCs to be able to teach and assess the students themselves.

As more and more lecturers qualify for their job, there is a need to change teacher education policies on assessments. In addition, the study findings revealed that it would be difficult to implement all the phases of the strategic pedagogy because of time constraints. Lecturers, therefore, were of the view that time pre-service teachers stay in college should be increased. In addition, it was stated that issues of CA should be taught across the curriculum. Furthermore, the absence of teacher education standards was observed to be an obstacle to effective teacher preparation for CA implementation. Teacher Education Standards would act as a bench mark for teacher preparation as well as the competences both the lecturers and the students would focus on when making assessments.

In order for the strategic pedagogy to be adopted for use in the TTCs for effective CA implementation, it is also important to review policies governing IPTE.

### 7.7.2 Recommendations for education practice

Based on the findings of the study, the following recommendations for education practice are suggested:

- ❖ **Teacher preparation for continuous assessment implementation should consider using deliberate practice instructional pedagogies**

To ensure that pre-service teachers are able to implement CA effectively in the schools, teacher education programmes should use deliberate pedagogies that enhance knowledge and skills acquisition and transfer. Studies indicate that pedagogies that teacher educators use during teacher preparation contribute effectively to teaching practices. For example, Walkwitz and Lee (1992) observed that students who were taught using manipulative skills demonstrated more mature levels of their ability to throw than those who were taught using non manipulative skills. This indicates that the way student-teachers are trained has an impact on their future practices.

Given the importance placed on CA in the whole SADC region, it is important to attend to the quality of CA training and strategies used when preparing pre-service teachers for effective CA. Although student-teachers may not be regarded as experts (Berliner, 2004) but rather as novices, appropriate pedagogies during the trainings may enhance the student-teachers ability to move towards the expert stage in their professional development. While it is generally agreed that time and experience are the dominant factors in the development of expertise, still teacher preparation programmes should play a major role in facilitating the developmental path to expertise. Thus the use of appropriate pedagogies, during pre-service teacher preparation programmes, can facilitate the development of expertise as Hammerness, Darling-Hammond, Bransford, Cochran-Smith, Mc Donald and Zeichner, (2005) contended.

Lecturers in TTC should therefore help pre-service teachers acquire CApedagogical content knowledge, skills and dispositions that will assist the pre-service teachers obtain knowledge and skills for effective CA implementation in the schools. In order to actualise this, lecturers should provide the pre-service teachers with an opportunity to apply and practice the knowledge while on training. Deliberately providing the students with the opportunity to practice specific activities on CA has the potential to foster in the pre-service teachers' ability to implement CA. Practice and familiarity with how to implement CA will enable the pre-service teachers to attain true command of the fundamentals of CA implementation. This agrees with Ericcson (2006, p. 685) observations that, "extensive experience of activities in a domain is necessary to reach very high levels of performance. Extensive experience in a domain does not however, invariably lead to expert levels of achievement... further

improvements depend on deliberate efforts to change particular aspects of performance". It is hereby contended that instructional procedures that lecturers use for teacher preparation for CA implementation matters more. Great teachers are made, not born hence teachers who are able to implement CA can be made if teacher preparation moments deliberately use pedagogies that link theory and practice (Darling-Hammond, 2006).

❖ **Pre-service teachers and in-service teachers should be properly trained in continuous assessment implementation practices**

Since PCAR brings about paradigm shift in as far as teaching and assessment are concerned, the MoEST should invest heavily in teacher education training and development to realise the goals of PCAR. The challenges noted in CA implementation should serve as a warning bell never to take teacher training for a new curriculum lightly. The heavy investments made in curriculum review and development should be complemented with adequate teacher training and development of the human resources.

As an interim measure, it is recommended that concrete measures should be put in place to support the TTC lecturers in equipping them with relevant instructional strategies to enhance effective CA implementation. This may also entail establishing effective monitoring and evaluation mechanisms by DTED in liaison with DIAS, MIE and MANEB.

❖ **The alignment of the IPTE curriculum with PCAR should be based both on the philosophical and instructional practices used for teacher preparation for CA implementation**

It was indicated earlier on that IPTE curriculum was aligned with PCAR, and this was argued to be the appropriate procedure because the pre-service teachers were being prepared for the PCAR programme. The issues that characterise PCAR are the use of participatory teaching pedagogies and integration of teaching, learning and assessments through CA. However, this study revealed that IPTE embraces OBE that advocates for participatory approaches at the expense of CA implementation. It was observed that lecturers walked the talk in using participatory teaching. This was evidenced in how they delivered their lectures. However, lecturers did not walk the talk when it came to the preparation of the teachers for CA implementation. Effective teacher preparation should focus on the core aspects of PCAR for which the pre-services teachers are being prepared.

❖ **Teaching practice and school supervision and inspection should focus on enhancing CA implementation**

In order to effectively implement the strategic pedagogy and graduate teachers who have CA competences and performance, TTCs should consider allowing pre-service teachers to do micro-teaching after topics in assessment in general and CA in particular. This will necessitate a review of the IPTE curriculum. In addition, it is recommended that issues of CA should be taught across the IPTE curriculum. While the core issues of CA should continue being taught in the Education Foundation Studies, its application should be contained in all other learning areas.

In order to achieve the goal of effective CA implementation in the schools, the instructional strategies and practices lecturers use should emphasise what the pre-service teachers must be doing. To achieve this, lecturers should be role models in how CA implementation is to be done during the teaching/learning processes.

Pre-service teachers could also better understand how to implement CA in their classrooms if their lecturers “walked the talk” or were seen to be implementing CA themselves. If the pre-service teachers observed their lecturers demonstrating how to implement CA, they would most likely emulate their lecturers since people learn by observing. This would also be enhanced when the pre-service teachers are deliberately given an opportunity to practice CA implementation during their training. Not only would they practice how to implement CA but also gain confidence on how to implement it before they actually go out to teach during TP and after getting the job. Since the pre-service teachers are being prepared for PCAR implementation, which emphasises participatory teaching pedagogies and CA implementation, this emphasis should be at the core of the pre-service teachers training.

School inspection and supervision should also pay particular attention on teachers’ ability to implement CA. The advice and support that the teachers would receive from the inspection and methods advisors would help improve CA implementation in the schools.

### **7.7.3 Recommendations for future research**

The following are recommendations for future research:

- ❖ **Establishing the impact of a strategic pedagogy on pre-service teachers’ ability to implement continuous assessment in the primary schools**

The study has provided evidence that suggests that use of a strategic pedagogy in the TTCs has the potential in the preparation of pre-service teachers for effective CA implementation in the primary schools in Malawi.



However, as the study employed design research whose participants were drawn from a research site conveniently sampled, and bearing in mind that the research participants for the intervention study were purposively sampled, it may not be proper for the study findings to be generalised to all the TTCs in Malawi.

Despite these limitations, the findings provide a springboard for further research. The conclusions made, based on the data collected and the study findings provide an opportunity to explore the issue at hand further. The study examined how pre-service teachers were actually being prepared for CA implementation in line with PCAR requirements, and it introduced a strategic pedagogy that teacher educators could use as they prepared pre-service teachers for effective CA implementation.

Since this study did not establish the effectiveness of the strategic pedagogy by observing the pre-service teachers practice in the schools after being taught using the SPI, it is recommended that future research should be done to observe the pre-service teachers in the primary school classroom after being exposed to SPI. The research question for such an assessment could be “What is the impact of a strategic pedagogy on pre-service primary school teachers’ competence and performance in implementing CA in their classrooms?”

❖ **Implementing a similar study on a larger scale to generalise the study findings**

It is recommended that a study of a similar nature be conducted on a larger sample size to increase the generalisability of the findings to all the TTCs in Malawi. MoEST and other interested partners could consider funding such a research project.

❖ **Assessing the effect of using the strategic pedagogy approach (PPDPE) on learner performance in other subject areas**

Based on the feedback obtained during the evaluation of the strategic pedagogy after implementation, it was revealed that the strategic pedagogy had the potential for use in other learning areas. It is thus recommended that future research should be carried out to determine the practicality and effectiveness of the strategic pedagogy when teaching other learning areas and methodology courses in both IPTE programmes, and in secondary school teacher preparation programmes.

❖ **Determining the impact of the PPDPE model in continuous professional development (CPD)**

Besides carrying out further research in those areas, it is also recommended that future research be carried out to determine the effectiveness of using the strategic pedagogy as an instructional approach during CPD either in CA implementation or in any other subject area.

## **7.8 Conclusion**

Pre-service teacher education programmes were supposed to empower the pre-service teachers with the pedagogic content knowledge, attitudes, skills and values necessary for their subsequent use in the primary schools. It therefore, follows that teacher training institutions should continue playing a tremendous role in the development of effective teachers especially when new innovations have been introduced in the curriculum. Teacher preparation programmes should respond to any such innovations effectively. Chipeta and Mannathoko (1993, p. 9) noted that, "at a teacher training level, it is stated that to teach effectively the tutor must be an example to his students of the methods and styles they are going to use at school." While methods courses may take care of that, teacher education programmes should not just pay lip services by aligning the curriculum to changes that occur at the primary school but should also endeavour to consider instructional approaches that would enable the pre-service teachers to actualise curriculum requirements effectively upon graduation.

Since it is believed that teachers teach the way they were taught, teachers' ability or inability to implement CA could be viewed, in one way, as a mirror of the kind of preparation they received during their initial primary teacher education. Lecturers in TTCs in Malawi who are supposed to possess both the CA content knowledge (CACK) and CA pedagogic content knowledge (CAPCK) ought to provide the pre-service teachers with the relevant content on CA implementation as well as adopt appropriate instructional models that would enhance knowledge and skills acquisition and transfer for effective CA implementation in the schools. With proper pedagogies, it is possible for the lecturers in TTCs to prepare pre-service primary school teachers who are able to implement CA effectively.

The study findings suggest that the instructional strategy that TTC lecturers could adopt when preparing pre-service teachers for CA should be participatory in nature which should deliberately begin with the lecturers plan for the instructional phase followed by actual lesson presentation that incorporates demonstration and DP of what they have learned. Evaluation with effective feedback should be embedded within the lecture. This approach is what PPDPE entails. The findings also suggest that teacher preparation for CA with appropriate pedagogies is the starting point for effective CA implementation in the primary schools. While previous research focused on factors that hindered effective CA implementation, this study has nonetheless provided a new dimension of teacher preparation for CA implementation.

Improving the pedagogies that lecturers use as they prepare pre-service school teachers for CA implementation is key to effective CA implementation in the primary schools.

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## **APPENDICES**

**APPENDIX A:**

**LETTER OF INVITATION AND QUESTIONNAIRE FOR LECTURES**

**1 October 2013**

**Dear Participant,**

**An invitation to participate in research into developing “*A strategic pedagogy for pre-service primary teacher education for effective continuous assessment implementation in Malawi*”**

Since the introduction of the new primary curriculum and assessment reform (PCAR) in Malawi in 2007, which places a strong emphasis on teachers’ use of participatory teaching strategies and the integration of teaching, learning and assessment, teachers are facing numerous challenges. The challenge of implementation is experienced by teachers oriented prior to the introduction of the curriculum and by teachers trained in the teacher training colleges (TTCs) on how to implement continuous assessment. A concerning aspect of this situation is that these challenges are experienced despite the orientation and training that teachers have undergone. Also of concern is the fact that even recent graduates from the Teacher Training Colleges (TTCs) in Malawi who are undergoing a revised curriculum aligned with the PCAR face similar challenges. The question arises as to how teachers are being prepared in the TTCs for effective continuous assessment implementation in the schools.

The aim of this study is to understand the pedagogies that lecturers in pre-service teacher education programmes in Malawi use as they prepare teachers for effective continuous assessment implementation in primary schools and to collaboratively develop effective continuous assessment implementation pedagogy for use by lecturers in pre-service teacher education programmes in Malawi.

Through the research, I hope to gain insights into how lecturers are currently preparing teachers for effective continuous assessment implementation and to collaboratively design and develop a pedagogy that could be used to prepare primary school teachers for effective continuous assessment implementation. This research could also allow educational practitioners like TTC lecturers and policy-makers to gain a better understanding of areas needing intervention and additional support to effectively implement continuous assessment in Malawi.

Your college has been purposefully selected to participate hence your participation in the study. Participation in this study will involve a needs assessment with all lecturers at your TTC and an intervention involving selected Foundation Studies lecturers. Your participation in this study is voluntary. There will be no penalty or repercussion if you choose not to participate or choose to withdraw from the study at any time.

All data collected will be kept strictly confidential. No college or participant will be identified in my research and participants will be referred to by pseudonyms.

The study is being carried out under the supervision of Professor Sarah Howie ([sarah.howie@up.ac.za](mailto:sarah.howie@up.ac.za)) and Dr Caroline Long ([caroline.long@up.ac.za](mailto:caroline.long@up.ac.za)): Centre for Evaluation and Assessment, Department of Science Mathematics and Technology Education, University of Pretoria. If you have any questions concerning the research study, please kindly call +27796603746/+265882198071/+2651536359 or e-mail: [chokochas@yahoo.com](mailto:chokochas@yahoo.com).

Thank you for your co-operation.

Chokocha M Selemani-Mbewe

Prof. S.J. Howie

Dr C. Long

**Student**

**Supervisor**

**Co-supervisor**

**Lecturers' Questionnaire Number**

**Knowledge, Attitudes and Practice regarding Continuous Assessment (KAPCA)  
Questionnaire**

**Instructions: Please read through the questionnaire carefully and respond as objectively as possible to all the questions.**

**Section A: Demographic details**

**A1. Sex:** *(Tick one as appropriate)* Male  Female

**A2. Age:** *(Tick the age range most appropriate to you)*

Under 25 years

25-29 years

30-34 years

35-39 years

40- 44 years

45+ years

**A3. Highest Academic Qualifications** *(Tick your highest qualification only)*

Diploma in Education

Bachelor of Education

University Certificate in Education

Master's Degree



PhD

Other (Specify please) \_\_\_\_\_

**A4. Experience as a Primary School Teacher** (*Tick one box only*)

None

Less than 1 year

1-5 years

6-10 years

11-15 years

16-20 years

21+ years

**A5. Years of experience as a lecturer** (*Tick the category appropriate to you*)

Less than 1 year

1-5years

6-10years

11-15years

16-20years

21+years

**A6. Experience with MANEB activities** (*Tick all the categories that apply to you*)

None

Test item writer

Invigilator

Exam critique

Exam moderator

Chief examiner

Senior examiner

Assistant examiner/scorer

Other (Specify please) \_\_\_\_\_

**A7. Continuous professional development in continuous assessment**

Have you attended any professional development courses on continuous assessment? (*Tick one*)  Yes  No

If yes, in what way did the courses equip you with knowledge and skills for preparing teachers for effective continuous assessment in the primary schools?

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If no, what topics would you suggest are included in those professional development courses?

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**Section B**

For Questions B1-B45 please indicate how much you agree with the following statements about continuous assessment. Tick only one category of your choice in each line.

No.	Statements	Strongly agree	Agree	Disagree	Strongly disagree
		1	2	4	5
B1	Assessment provides useful evidence for planning the next lesson.				
B2	The purpose of applying continuous assessment is to monitor learning progress.				
B3	Implementing continuous assessment informs my teaching.				

CONTINUOUS ASSESSMENT PRE-SERVICE PRIMARY TEACHER EDUCATION IN MALAWI

No.	Statements	Strongly agree	Agree	Disagree	Strongly disagree
B4	Implementing continuous assessment takes away important teaching time.				
B5	Continuous assessment makes learners anxious about assessment.				
B6	A teacher has to record all continuous assessment results.				
B7	Continuous assessment scores contribute to the learners' final score for the term or year.				
B8	Not all continuous assessment scores are to be recorded.				
B9	A teacher decides what continuous assessment scores are to be recorded.				
B10	A teacher is the only person responsible for implementing continuous assessment.				
B11	Continuous assessment implementation is very complex.				
B12	Continuous assessment is the only basis for determining whether a learner is doing well in a course of study or subject.				
B13	Continuous assessment helps teaching and learning.				
B14	What I teach on daily basis is more greatly influenced by the curriculum than how well my students performed in the last lesson.				

No.	Statements	Strongly agree	Agree	Disagree	Strongly disagree
B15	My assessments are motivated by whether my students know, understand or can do key sections of the curriculum.				
B16	I give feedback that helps students to improve.				
B17	Comparing students' performances with other students is not central in my assessments.				
B18	I encourage my students to own their learning.				
B19	I encourage students to act as instructional resources for one another.				
B20	I give opportunities for my students to assess each other's work.				
B21	I often talk to students about how they can improve their learning.				
B22	I help students find ways of solving problems that they have in their learning.				
B23	I encourage students to see their mistakes as valuable learning opportunities.				
B24	I talk about the learning intentions and criteria for success for each lesson.				
B25	I tell students how well they have performed compared with their own earlier performance.				
B26	I think student effort is important when I assess their learning.				

No.	Statements	Strongly agree	Agree	Disagree	Strongly disagree
B27	I find student's errors are helpful because they give me information about how students are thinking.				
B28	I use student errors to plan for the next lesson.				
B29	My feedback to student assessment focuses more on what was expected and how to improve.				
B30	I encourage my students to assess their own work.				
B31	I give guidance on how my students can assess their own work.				
B32	I help students to understand the learning purposes of each lesson or series of lessons.				
B33	My assessment is mainly about what students know, understand and can do.				
B34	I use questions mainly so that my students give me reasons and explanations.				
B35	I help students plan the next steps in their learning.				
B36	My own classroom assessments are more useful than formal assessments.				
B37	Assessment of students' work is mainly in the form of comments.				
B38	Assessment of students' work is mainly given as marks and grades.				

No.	Statements	Strongly agree	Agree	Disagree	Strongly disagree
B39	I use questions mainly to get factual knowledge from my students.				
B40	I tell students how well they have done compared to others in the class.				
B41	I give students a chance to practice how to implement continuous assessment.				
B42	I encourage students to engage in effective discussions and other learning tasks to show their understanding of concepts and ideas.				
B43	Continuous assessment is used to inform teaching and learning.				
B44	I use continuous assessment for both formative and summative purposes.				
B45	Continuous assessment is beneficial to both the teacher and the learners.				

**Section C:**

For Questions **C1-C16** answer as completely as possible on the lines below.

C1. What do you understand by the term continuous assessment?

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C2. What do you think is the importance of continuous assessment?

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C3. What type of activities should a teacher do when implementing continuous assessment?

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C4. Based on your knowledge of how to implement continuous assessment, what challenges do you anticipate the pre-service teachers will encounter in the schools when implementing continuous assessment?

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C5. How do you support the pre-service teachers who face the challenges outlined in (C4) above?

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C6. On average, how many students do you feel a teacher can manage effectively in the classroom when implementing continuous assessment? Explain your answer?

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C7. How satisfied are you with the way you prepare the pre-service teachers for continuous assessment implementation in the classroom?

Explain your level of satisfaction.

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C8. If you had the opportunity, what would you change in the way you prepare the pre-service teachers for continuous assessment implementation in the classroom?

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Explain why you will make those changes.

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C9. In the future, *if you had a choice*, would you consider asking your students to implement continuous assessment during teaching and learning?

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Explain your answer.

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C10. To what extent are you satisfied with the quality of the strategies you use as you prepare pre-service teachers for effective continuous assessment implementation?

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Explain your answer.

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C11. Consider the amount of interaction between lecturers and student teachers. Does this amount provide an opportunity for your students to be familiar with the key aspects of continuous assessment implementation?

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Explain your answer.

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C12. How often do you allow your students to practice the following key strategies of continuous assessment during micro-teaching or peer-teaching?

<b>Continuous assessment strategies</b>	<b>Regularly</b>	<b>Often</b>	<b>Seldom</b>	<b>Not at all</b>
Peer assessment				
Self-assessment				
Creating an opportunity for pupils to ask questions				
Encourage them to consider fellow pupils as a source of knowledge				
Clarify and share learning intentions and criteria for success				
Provide feedback that is helpful				

C13. Identify the continuous assessment strategies in C12 above you are able to demonstrate to the pre-service teachers when preparing them for continuous assessment implementation.

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C14. Is there any additional support or training you feel you need as you prepare pre-service teachers for effective continuous assessment implementation? If yes, please explain your areas of need.

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C15. What do you think should a TTC lecturer know and be able to do when preparing pre-service teachers so that they are able to implement continuous assessment in the schools?

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C16. What challenges do you face as you prepare pre-service primary school teachers for continuous assessment implementation in the schools?

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**Thank you for completing the questionnaire**

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**APPENDIX B:**

**AUTHORITY TO USE INSTRUMENT FROM MARY JAMES**

Re: REQUEST FOR PERMISSION TO USE AND ADAPT QUESTIONNAIRE6

Yahoo/Drafts

- **Chokocha Selemani-Mbewe** <chokochas@yahoo.com>

---

**To:**mej1002@cam.ac.uk

**Cc:**Sarah.Howie@up.ac.za,Caroline.Long@up.ac.za

Jul 17, 2013 at 12:15 PM

Dear Professor Mary James,

I am Chokocha Mathias Selemani-Mbewe a PhD student at the University of Pretoria under the supervision of Professor Sarah Howie and Dr Caroline Long. My topic for research is " A strategic pedagogy for pre-service primary teacher education for effective continuous assessment implementation in Malawi". The purpose of my study is twofold. first, to understand the pedagogies that lecturers in pre-service primary teacher education use as they prepare teachers for continuous assessment (assessment for learning) implementation and to design and develop a pedagogy that the lecturers could use for effective continuous assessment implementation in primary schools. I write to request for permission to use and adapt the questionnaire you used reported in the recent edition of Research Matters which I

and my supervisors consider relevant for my study.

Looking forward to your favourable response.

Sincerely,

Chokocha M. Selemani-Mbewe

---

- **Mary James** <mej1002@cam.ac.uk>
- 

To:chokochas@yahoo.com

Jul 18, 2013 at 9:54 PM

Dear Chokocha M. Selemani-Mbewe

I am not sure that I know the reference in Research Matters. Is this the 2010 issue by Chris Wakins and Jane Reed?

Perhaps it refers to the paper that Dave Pedder and I wrote in 2006 (see attached). If so, the questionnaires are downloadable from our project website (see [http://www.learntolearn.ac.uk/cgi-bin/learntolearn/index.pl?start=home/014\\_instrument\\_self-evaluation/instruments](http://www.learntolearn.ac.uk/cgi-bin/learntolearn/index.pl?start=home/014_instrument_self-evaluation/instruments) ). The questionnaires we used can be found if you click the link to 'school level instruments'. You are very welcome to use these provided that you fully attribute the source.

Please give my very best wishes to Professor Howie. I hope she is well.

Best wishes

Mary James

Professor Mary James BEd, MA, PhD, AcSS, FRSA

President, British Educational Research Association

Associate Director of Research

---

University of Cambridge Faculty of Education

184 Hills Road

Cambridge CB2 8PQ, UK

Tel: +44 (0) 1223 767623 (Thursdays only)

E-mail: [mej1002@cam.ac.uk](mailto:mej1002@cam.ac.uk)

[www.educ.cam.ac.uk/people/staff/james](http://www.educ.cam.ac.uk/people/staff/james)

On 17/07/2013 11:15, Chokocha Selemani-Mbewe wrote:

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716.1kB

- 
- **Chokocha Selemani-Mbewe** <[chokochas@yahoo.com](mailto:chokochas@yahoo.com)>

---

**To:** [mej1002@cam.ac.uk](mailto:mej1002@cam.ac.uk)

**Cc:** [Sarah.Howie@up.ac.za](mailto:Sarah.Howie@up.ac.za), [Caroline.Long@up.ac.za](mailto:Caroline.Long@up.ac.za)

Jul 19, 2013 at 10:16 AM

Dear professor Mary James,

Thank you so much for your consideration. The questionnaire in question appeared in the 2013 edition of Research Matters and the items are almost the same with the ones in the article you sent me. I will pass on your greetings to Professor Howie as requested. I will be contacting you for more advice because of your involvement with assessment for learning expertise.

Sincerely,

Chokocha.

Show original message

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- **Chokocha Selemani-Mbewe**

---

Dear professor Mary James, Thank you so much for...

Jul 19, 2013 at 1:42 PM

---

- **Mary James** <mej1002@cam.ac.uk>

---

To:chokochas@yahoo.com

Jul 19, 2013 at 1:43 PM

Glad to help.

Best

Mary James

Professor Mary James BEd, MA, PhD, AcSS, FRSA

President, British Educational Research Association

Associate Director of Research

University of Cambridge Faculty of Education

184 Hills Road

Cambridge CB2 8PQ, UK

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Tel: +44 (0) 1223 767623 (Thursdays only)

E-mail: [mej1002@cam.ac.uk](mailto:mej1002@cam.ac.uk)

[www.educ.cam.ac.uk/people/staff/james](http://www.educ.cam.ac.uk/people/staff/james)

On 19/07/2013 12:42, Chokocha Selemani-Mbewe wrote:

Show original message

- 
- To
  - Mary James

- 

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CC / BCC

Dear professor Mary James,

Thank you so much for your kindness. The article appeared in the 2013 edition of Research Matters. I will pass on the greetings to Professor Sarah Howie

Chokocha M. Selemani-Mbewe  
Lecturer in Testing Measurement and Evaluation  
Domasi College of Education  
P.O. Box 49  
Domasi  
MALAWI  
TEL. (265) 1 536 935 (H)  
TEL. (265) 1 536 552 (O)  
CELL. (265)8 505 194

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**From:** Mary James <mej1002@cam.ac.uk>

**To:** Chokocha Selemani-Mbewe <chokochas@yahoo.com>

**Sent:** Thursday, July 18, 2013 9:54 PM

**Subject:** Re: REQUEST FOR PERMISSION TO USE AND ADAPT QUESTIONNAIRE

Dear Chokocha M. Selemani-Mbewe

I am not sure that I know the reference in Research Matters. Is this the 2010 issue by Chris Wakins and Jane Reed?

Perhaps it refers to the paper that Dave Pedder and I wrote in 2006 (see attached). If so, the questionnaires are downloadable from our project website (see [http://www.learntolearn.ac.uk/cgi-bin/learntolearn/index.pl?start=home/014\\_instrument\\_self-evaluation/instruments](http://www.learntolearn.ac.uk/cgi-bin/learntolearn/index.pl?start=home/014_instrument_self-evaluation/instruments) ). The questionnaires we used can be found if you click the link to 'school level instruments'. You are very welcome to use these provided that you fully attribute the source.

Please give my very best wishes to Professor Howie. I hope she is well.

Best wishes

Mary James

Professor Mary James BEd, MA, PhD, AcSS, FRSA

President, British Educational Research Association

Associate Director of Research

University of Cambridge Faculty of Education

184 Hills Road

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Cambridge CB2 8PQ, UK

Tel: +44 (0) 1223 767623 (Thursdays only)

E-mail: [mej1002@cam.ac.uk](mailto:mej1002@cam.ac.uk)

[www.educ.cam.ac.uk/people/staff/james](http://www.educ.cam.ac.uk/people/staff/james)

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**APPENDIX C:**

**ACTION CHECKLIST**

**LECTURE ROOM OBSERVATION PROTOCOL**

CLASSROOM OBSERVATION TOOL FOR PhD STUDY ON A STRATEGIC PEDAGOGY  
FOR PRE-SERVICE PRIMARY TEACHER EDUCATION FOR EFFECTIVE CONTINUOUS  
ASSESSMENT IMPLEMENTATION IN PRIMARY SCHOOLS IN MALAWI

Name of the Teacher Training College: \_\_\_\_\_ Lecturer

No: \_\_\_\_\_

Class Name: \_\_\_\_\_ Number of students: \_\_\_\_\_ Males: \_\_\_\_\_

Females: \_\_\_\_\_

Subject/Learning Area:

\_\_\_\_\_

Topic:

\_\_\_\_\_

Date: \_\_\_\_\_

Time \_\_\_\_\_

**A. PLANNING AND PREPARATION**

1. Lesson plan/teaching notes available
2. Lesson objectives clearly stated
3. Teaching methods/approaches specified
4. Planned classroom assessment activities indicated
5. Procedure to level the playing field indicated

**B. LESSON PRESENTATION**

6. Shares and clarifies learning intentions and criteria for success/ make Students aware of learning goals and evaluation standards
7. Encourages students to consider fellow students as a source of knowledge
8. Encourages collaborative learning
9. Uses a variety of learner centred teaching activities
10. Assessments used to enhance achievement and instruction
11. Provides classroom assessment activities that match with the success criteria
12. Provides tasks involving understanding and application more often than Rote memorization
13. Tasks offer students an opportunity to close the gap between where they are and the evaluation standard
14. Lecturer scores assessment tasks using peer or self-assessment
15. Provides feedback to classroom assessment activities by providing information on how to close the gap between where they are and evaluation standards for which they are aiming

Yes	No

- 16. Assessment is integral to teaching and learning
- 17. Provides remedial and enrichment activities
- 18. Students given an opportunity to practice implementing aspects of continuous assessment
- 19. Students given an opportunity to ask questions
- 20. Students given an opportunity to reflect on lesson content and presentation
- 21. Consolidates lesson content focussing on learning intentions and criteria for success

**GENERAL COMMENTS**

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**APPENDIX D:**

**SAMPLE LETTER SEEKING PERMISSION FROM GATEKEEPERS**



UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA  
Faculty of Education

Centre for Evaluation and Assessment

17<sup>th</sup> September, 2013

**Request for permission to conduct an academic research to the manager, South East Education Division**

The Education Division Manager,  
South East Education Division,  
Private Bag 48,  
Zomba.  
MALAWI.

Dear Sir,

**Permission to conduct PhD research in education at Machinga TTC**

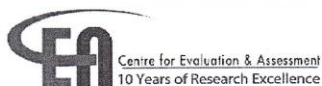
I write to seek permission to conduct academic research with lecturers and pre-service primary school teachers in your education division at Machinga Teachers' Training College in collaboration with other education institutions such as Malawi National Examinations Board (MANEB), Chancellor College Faculty of Education, Malawi Institute of Education (MIE) and Directorate of Inspectorate and Advisory Services (DIAS) in the Ministry of Education Science and Technology. The results of the study will culminate into a PhD thesis.

I am a lecturer in teacher education at Domasi College of Education. I am currently pursuing doctoral studies in Assessment and Quality Assurance and Training at the University of Pretoria, under the supervision of Professor Sarah Howie (e-mail [sarah.howie@up.ac.za](mailto:sarah.howie@up.ac.za)) and Dr Caroline Long (e-mail [caroline.long@up.ac.za](mailto:caroline.long@up.ac.za)).

My research topic is "A strategic pedagogy for pre-service primary teacher education for effective continuous assessment implementation in Malawi". The aim of this study is to understand, develop and design a pedagogy that lecturers in primary teacher training colleges in Malawi could use as they prepare primary school teachers so that they are able to implement continuous assessment effectively in the schools.

Through the research, I hope to gain insights into how lecturers are currently preparing teachers for effective continuous assessment implementation and to collaboratively design and develop a pedagogy that they could use as they prepare primary school teachers for effective continuous assessment implementation. This research could also allow educational practitioners and policy-makers to gain a better understanding of areas needing intervention and additional support in effective continuous assessment implementation.

Participation in this study will involve needs assessments with all lecturers at the TTC and an intervention involving six purposively selected Foundation Studies lecturers. The TTC's participation in this study is voluntary.



CEA (Centre for Evaluation & Assessment) Tel number : +27 (0) 12 420 4175  
Office 2-9, Library Building, Groenkloof Campus, Fax number: +27 (0) 12 420 5723  
University of Pretoria, PRETORIA 0002  
Republic of South Africa [www.up.ac.za/education](http://www.up.ac.za/education)

I would like to assure you that my study will adhere to research ethics, in line with the University of Pretoria ethics requirements as I will apply for ethics clearance before I commence with my research. The name of the institution will be kept confidential at all times and all participants will be guaranteed anonymity and confidentiality.

If you have any questions concerning the research study, please kindly contact Professor Sarah Howie at +27 12 420 4131 or email [sarah.howie@up.ac.za](mailto:sarah.howie@up.ac.za) and Dr Caroline Long at +27 12 420 5702 or e-mail [caroline.long@up.ac.za](mailto:caroline.long@up.ac.za) Department of Science Mathematics and Technology Education, Centre for Evaluation and Assessment, University of Pretoria or Chokocha M Selemani-Mbewe (+2779 660 3746)/+27124205719 (SA)/ +265 1 536 359 (MW) or e-mail: [chokochas@yahoo.com](mailto:chokochas@yahoo.com)

I will be very grateful for your support.

Sincerely,



Chokocha M Selemani-Mbewe

SJHowie

Supervisor

M.C. LONG

Co-Supervisor

pp M.b Lg.

Signature

M.b Lg.

Signature

30/09/2013

Date

30/09/2013

Date

**APPENDIX E:**

**SAMPLE RESPONSE LETTER FROM GATEKEEPERS**

Telegrams: MINED LILONGWE  
Telephone: +265 1 789422/01788961  
Fax: +265 1 788064/164



In reply please quote No.....

MINISTRY OF EDUCATION, SCIENCE & TECHNOLOGY  
PRIVATE BAG 328,  
CAPITAL CITY  
LILONGWE 3  
MALAWI

**Ref. No. DTED/ADMIN/13/04**

**24<sup>th</sup> January, 2012**

Mr. Seleman Mbewe  
Domasi College of Education,  
P. O. Box 49,  
Domasi,  
Zomba.

Dear Sir,

**RE: REQUEST TO CONDUCT RESEARCH IN EDUCATION INSTITUTIONS –  
MR. CHOKOCHA SELEMAN MBEWE.**

Reference is made to your letter dated 9<sup>th</sup> November, 2012, in which you requested for an approval to conduct research in education institutions. Your request was submitted to Ministry of Education, Science and technology for approval by the Honourable Minister.

I am pleased to inform you that your request has been approved to conduct research and collect data on how pre-service teacher education is preparing teachers for the implementation of continuous assessment in schools in the following Teacher Education

institutions: Blantyre and Machinga Teachers' Training Colleges. The following will be the stake holders of the research; Malawi National Examinations Board, Malawi Institute of Education and the University of Malawi, Faculty of Education.

I wish you all the best in your studies.

Yours faithfully,



D. Z. Mbewe Mrs.

For: **THE SECRETARY FOR EDUCATION,  
SCIENCE AND TECHNOLOGY**



Telephone: (265) 01 526 432

Fax: (265) 01 526 432

Ref.No.SEED/HRM/04/15.

**Communications should be addressed to:**

**The Manager, South-East Education Division**



*In reply please quote No.....*

SOUTH EAST EDUCATION DIVISION

PRIVATE BAG 48

ZOMBA

14<sup>th</sup> October, 2013.

To: The Principal,  
Machinga TTC.

**RE: PERMISSION TO CONDUCT PhD RESEARCH IN EDUCATION AT MACHINGA TTC:**

The bearer of this document is **Mr. Chokocha M.Seleman-Mbewe** a lecturer in teacher education at Domasi College of Education.

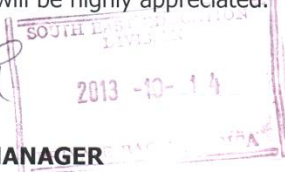
He would like to conduct a research in A STRATEGIC PEDAGOGY OF PRE-SERVICE PRIMARY TEACHER EDUCATION FOR EFFECTIVE CONTINUOUS ASSESSMENT IMPLEMENTATION IN MALAWI. Your Institution happens to be one of the colleges selected for the research.

Please assist him with the necessary information.

Assistance accorded to him will be highly appreciated.

  
MSD ALUFANDIKA

**EDUCATION DIVISION MANAGER**



Telephone: (265) 1 953 045  
(265) 0 888143 088  
(265) 0 999 941 517  
All Communications should be addressed  
P.O. Box 140, Liwonde



In reply please quote No.:.....

To: The Principal, Machinga TTC

11<sup>th</sup> October, 2013

FROM : The Principal  
Machinga Teachers Training College  
P.O. Box 140  
Liwonde

TO : Mr. Chokocha M. SelemaniMbewe  
Domasi College of Education  
P.O. Box 50  
Zomba

Dear Sir,

**REQUEST FOR PERMISSION TO CONDUCT AN ACADEMIC RESEARCH AT MACHINGA T.T.C.**

I am pleased to inform you that Machinga TTC is ready to be your research site as you develop and design a pedagogy which allows for an effective implementation of continuous assessment that lectures can use as they prepare primary school teachers.

I am sure Machinga TTC lectures will benefit professionally after taking part in this research activity and be able to train teachers better for the good of the Nation.

Yours faithfully

A handwritten signature in blue ink, appearing to be 'M.L. MSAKATIZA', written over a circular stamp or seal.

**M.L. MSAKATIZA**  
**PRINCIPAL - MACHINGA TTC**

## APPENDIX F:

## LESSON PLAN

Learning area: Expressive Arts

Date: 6th Dec. 2013

Time: 7:30 - 8:30 am

Topic: Papier Mache'

Success Criteria:

Learners must be able to produce papier mache' models using Pulp method

Introduction:

~~Assess~~ Show various models and ask student hrs:

- What materials are used to make the models?
- Explain the meaning of papier mache'
- Mention the methods followed in making models using paper i.e. strip, sheet & pulp
- Explain the importance of papier mache' models
- Explain the initial <sup>step</sup> procedure followed in producing models using the pulp method.
- Demonstrate the procedure followed in producing the pulp i.e. crushing soaked paper in mortar
- Demonstrate the next procedure followed in making a model following the pulp method using a mould:
- Let student hrs. ~~pr~~ practise making pulp models

Date: 08-09-14

Learning Area: Numeracy and Mathematics

Time: 0730 - 0830

Core Element: Numbers, Operations and Relationships

Topic: The Teaching of Addition

Success Criteria: Student-teachers must be able to:-

- i. identify concepts in a question (MCQ).
- ii. formulate questions from the concepts
- iii. construct a check list.

Teaching, Learning and Assessment Resources.

- Chart papers having maths questions in addition
- Chart paper
- Pencil markers.

Lecturers' Activities	Students' Activities
<p><u>Introduction:</u></p> <p>Revise the previous work with the students by asking oral questions.</p> <ul style="list-style-type: none"> <li>- What is addition? / Explain the term addition.</li> <li>- Explain the two types of addition</li> </ul> <p><u>Development</u></p> <p>Step 1: Display a chart having a mathematical question as follows:</p>	<ul style="list-style-type: none"> <li>- Answering questions.</li> </ul> <p>(the process of combining two addends to get a sum).</p> <p>(regrouping and non regrouping addition).</p>
	<ul style="list-style-type: none"> <li>- Matching carefully.</li> </ul>

$$\begin{array}{r}
 \text{H} \quad \text{T} \quad \text{O} \\
 2 \quad 3 \quad 4 \\
 + 5 \quad 8 \quad 9 \\
 \hline
 8 \quad 2 \quad 3
 \end{array}$$

• Label/what/which are some of the skills/concepts that have been observed on the question

step 2.

Formulation of question from the concepts

use the chart paper to have the questions.

Display a chart having columns for a checklist.

Show how to use the checklist.

step 3:  
Construction of checklist over sets a questions.

$$\begin{array}{r}
 \text{H} \quad \text{T} \quad \text{O} \\
 1 \quad 7 \quad 2 \\
 + 3 \quad 9 \quad 0 \\
 \hline
 \hline
 \hline
 \end{array}$$

- Listing the concepts
  - addition along the ones column.
  - addition along the tens column and hundred column.
  - Regrouping along the ones and tens column. etc.

formulating questions for example:

Is the learner able to add correctly along the ones column? etc.

Writing down the questions.

Observing carefully.

Completing the checklist.

Constructing a checklist on the questions.

First: Identifying skills to be examined

2nd: Writing questions.

3rd: Constructing a checklist.

• plays the students work  
• consolidate the work

Conclusion:

Ask questions on steps to formulate a check list.

-

- Discussing their work
- making adjustments

Answering questions

- Isolating skills to be examined
- Asking questions
- Constructing a check list.
- Itself

Lesson Evaluation

Shon