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FACULTY OF SCIENCE EDUCATION

DEPARTMENT OF SCIENCE AND MATHEMETICS

INVESTIGATION INTO THE USAGE OF CONTINUOUS ASSESSMENT (CA) IN TEACHING AND LEARNING OF PHYSICS IN CHIMANIMANI DISTRICT.

BY

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF SCIENCE AND MATHEMATICS IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE BACHELOR IN SCIENCE EDUCATION DEGREE AT BINDURA SCIENCE OF EDUCATION.

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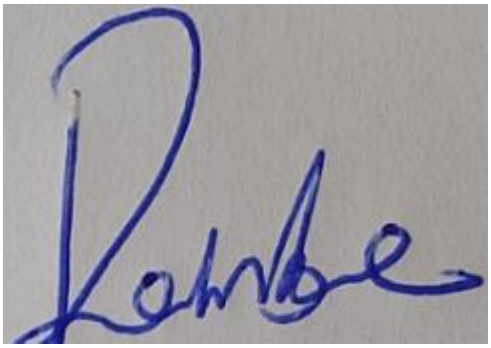

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DEDICATION

This research is dedicated to my family who made a positive contribution to my studies through their understanding, patience and encouragement.

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My heart overflows with a deep sense of gratitude to the Almighty God, for in him I live, move, and have my being, and he is the prime source behind the completion of my study.

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ABSTRACT

The study focused on one district, Chimanimani, of Manicaland and investigated challenges encountered when implementing continuous assessment (CA) since, there is a deterioration in the popularity of Physics education at the secondary level and poor performance prevailing in the schools. The study was guided by sub questions like, “How do teachers carry out continuous assessment learning activities (CA) when teaching physics?" Why do some teachers have a negative attitude towards the implementation of CA in Chimanimani District? What are better strategies to be used towards the implementation of CA?” A lot of literature was reviewed to determine the implementation of CA in the teaching and learning of physics. In trying to answer these questions, a case study was done using a qualitative research technique. It enables the study to get a more holistic picture of the answers to the research questions as well as gain deeper insight into the implementation of CA in the teaching of physics in secondary schools. The targeted population in the Chimanimani district was selected, which included physics teachers and learners from 10 schools, as well as important informants from MOPSE and the Teachers' Union. Using purposive and stratified sampling techniques, a sample of 100 students, ten teachers, and six important informants from MOPSE and the Teachers' Union were obtained. To solicit information, questionnaires were used as well as in-depth interviews. The collected data was then presented in the form of tables, figures, and graphs. It has been revealed by the data presented in Chapter 4 that obstacles faced by teachers and learners included lack of resources, inadequate training, heavy workloads, a high teacher-to-pupil ratio, and a lack of knowledge and abilities. Qualitative data were analysed using content analysis, whereas quantifiable data were coded and analyzed. This study recommended further

study on the staff development sessions and how resources can be supplied by stakeholders. These results led to the conclusion that CA implementation might be made more effective by making resources available, offering training programmes on CA awareness, supervising learners and teachers, and including all stakeholders, especially parents and teachers.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ABREVIATIONS

ARTUZ Amalgamated Rural Teachers Union of Zimbabwe

CA	Continuous Assessment
CALA	Continuous Assessment Learning Activity
MOPSE	Ministry of Primary and Secondary Education
NGOs	Non-Governmental Organisation
NASH	National Association of School Heads
PTUZ	Progressive Teachers Union of Zimbabwe
ZIMSEC	Zimbabwe Schools Examination Council

CHAPTER 1: INTRODUCTION

1.0 Introduction

The study assess attitudes of teachers and learners towards the incorporation of CALA in the teaching and learning of Physics in one peri-urban setting of Zimbabwe. This chapter provide the background of the study, the statement of the problem, aims and objectives of the study. It also justify the research by showing its significance. Last but not least, it provide the limitations and delimitations of the study as well as the definition of terms.

1.1 Background of the study

In 2015, Zimbabwe introduced a new curriculum for implementation for its primary and secondary schools with a new component called continuous assessment (CA). However, the continuous assessment framework could not be implemented in 2015 because of a lack of resources and other related challenges (Bram,2017). In March 2021, Zimbabwe's Ministry of Primary and Secondary education made a surprise turn by announcing the urgent revival of the continuous assessment framework for the 2021 examination candidates namely grade 7, Form 4 and Upper 6. According to Hayford (2018) Continuous Assessment, (CA) is a revolution from the traditional knowledge based final examination model to a competency based exit profile evaluation. CA gives a holistic evaluation of a learner's profile including an assessment of skills and values among others. This was a big shift from the final public examination model which previously evaluated the knowledge bank of the learner after completing a course. CALA comprises various learning activities or assessments that require students to conduct detailed research-based learning in specific areas where they incorporate practical's such as data collection through interviews, questionnaires, checklists, observations and experiments . For example, topic one in the Physics syllabus (20152022) states that there is need for assessment objectives, scheme of assessment, specification grid and assessment model which will be based on 30% continuous assessment and 70% summative assessment for both form 1-4 levels.

An attitude can be a person's positive, negative or neutral view to an object or events. The introduction of CALA in the school's curricula received mixed feelings from teachers, learners, the Ministry of Primary and Secondary Education, Teacher Unions

and parents. Some teachers argued that CALA was long overdue and will equip the learners with the necessary skills to play a significant role in the development of Zimbabwe. Newsday dated 15 August 2020 reported teachers complaining of being left out in crafting the curriculum with the CALA component but being forced to implement it. The introduction of CALA in the school's curricula received mixed feelings from teachers, learners, the Ministry of Primary and Secondary Education, Teacher Unions and parents. According to Holmes (2015) some teachers argued that CALA was long overdue and will equip the learners with the necessary skills to play a significant role in the development of Zimbabwe. Newsday dated 15 August 2020 reported teachers complaining of being left out in crafting the curriculum with the CALA component but being forced to implement it. In Zimbabwe, some schools have bloated classes averaging 50 students, and it has become difficult for teachers to monitor two different projects. According to the Progressive Teachers Union of Zimbabwe (PTUZ) statistics, the Ministry of Primary and Secondary Education had a teaching personnel deficit of 50 000 in January 2021 and more than 20 000 teachers had resigned since that period out of frustration. This means that the nature of the attitude of students towards implementation of continuous assessment needs to be studied to arrest the teacher's negative attitude towards the implementation of continuous assessment.

Furthermore, Zhou (2021) criticized the prevailing uncertainties associated with the assessment exercise as a result of teachers' non-participation in the CALA consultative process. According to secretary-general of the Progressive Teachers Union of Zimbabwe (PTUZ), teachers are grossly incapacitated and unable to cover the curriculum while also overseeing CALA research and assessments (Majongwe, 2021). According to the Amalgamated Rural Teachers Union of Zimbabwe (2021), learners have lost learning time as a result of both Covid-19 disruptions and teacher incapacity, and the hurried implementation of the CALA framework is an unwelcome waste of both limited learning time and our schools' limited resources. The researcher was inspired to examine teacher and Lerner attitudes toward CALA in a peri-urban environment in Zimbabwe since these primary stakeholders had varied sentiments regarding CALA. Furthermore, no existing investigations have been identified as a result, the researcher intends to fill the research gap. In this context, the researcher sought to assess teachers' attitudes toward the use of continuous assessment (CA) in teaching and learning of Physics in a Zimbabwean peri- urban district.

1.2 Statement of the problem

School continual evaluations are crucial in evaluating students' academic success. The Ministry of Primary and Secondary Education (MoPSE) has implemented a continuous evaluation system for secondary school students through ZIMSEC, with the aim of assisting teachers in enhancing their students' performance (Juliet et al ,2021).Education stakeholders have been motivating students to do well by providing them with regular assessments in schools leading up to the final national exams. In spite of these endeavors, secondary school students in Zimbabwe continue to perform below average in the Physics subject on national exams, which is not encouraging. The end effect has been students consistently performing poorly in Physics on exams at the regular level (Tobi, 2015). This jeopardizes many students' prospects who attend institutions that consistently achieve relatively low in Physics subject despite the presence of high continuous assessments scores as it published by ZIMSEC national analyses results 2021-2023. Therefore, it is still concerning to consider whether students' success in the final national examinations is correlated with the ongoing evaluations that Physics teachers have implemented and its viability in O-level secondary education. The results of the students' final exams differ from the school's continuous evaluation scores in Physics that are submitted to ZIMSEC. Studies by Abiby (2018), Makipaa (2019), Ugochukwu (2021) and Mutambo (2022) found that clarity is required on teacher's attitudes on issue dealing with Physics continuous assessment in contribution to the final national examinations. Nonetheless**,** little attention has been paid on the attitude of teacher's towards achievability of physics subject continuous assessment on students' performance in secondary schools. In filling this gap, the current study therefore investigated on the attitude of teachers towards practicability of Physics subject continuous assessment on student's performance in secondary schools in Chimanimani district.

1.3 Main Research Question

What are the challenges encountered in implementing CA in the teaching and learning of Physics?

The sub-questions that guided the study:

- How do teachers carry out continuous assessment learning activities (CA) when teaching Physics?
- Why do some teachers have a negative attitude towards the implementation of CA in Chimanimani District?
- What are better strategies to be used towards the implementation of CA?

1.4 Significance of the study

The study is of paramount importance especially in the education fraternity. It will be helpful to the government, NGOs, schools, students to mention just a few. The effective implementation of Continuous Assessment (C.A) has beneficial effects on the learners, teachers, parents or guidance and the education system in general. This is due to the fact that continuous assessment is more useful, practical, comprehensive and systematic than the traditional.

To the educational system, continuous assessment provides objective data on whether the standard of education is falling or rising. Parents/guidance are also afforded of opportunity of being informed of the holistic assessment of their children's performance. CA also led the student to get feedback on their efforts which will then propel them to prepare more for their exams if they had done well in the test or not. Also, on the part of teachers, he too will get feedback about which of his methods are of achieving desired result and which are not. It will also make sure that its loopholes are addressed so that it will be practiced in a manner which pleases all parties involved.

1.5 Delimitations of the study

The study is limited to one peri-urban district of Zimbabwe, Chimanimani. Although CA should be implemented in all subjects offered in schools, the study was confined to one subject. The research participants were Physics teachers and learners from the selected district and key informants from the Ministry of Secondary and Primary Education as well as teacher union leaders based in Chimanimani.

1.6 Organization of the study

This research is divided into five chapters. The background of the issue is covered in the first chapter's introduction, along with the study's goals. The second chapter is

devoted to a review of the literature, which includes a discussion of other research that have been conducted similarly, as well as the methods and conclusions of this study. The study population, the data gathering tools, the validity and reliability of the data collection tools, and the research design and methods covered in detail in chapter three. This study's fourth chapter presented data analysis and a discussion of the findings. The findings summarized, concluded and recommendations were given in chapter five.

1.7 Chapter summary

This chapter introduced the study by showing the background, the statement of the study, the aim of the study, the objectives of the study, research questions, limitations and delimitations, study assumptions, the significance of the study as well as the definition of key terms. The following chapter provide the literature review.

CHAPTER TWO: LITERATURE REVIEW

2.0 Chapter introduction

This chapter include a literature review, which is a survey of scholarly sources on a particular topic. A review of the literature provides an overview of current knowledge, allowing the researcher to identify relevant theories, methods, and gaps in existing research. It explain how scholars explain CA in Zimbabwe and beyond, how it is carried out, attitudes toward it, and strategies for implementing it.

2.1 Continuous assessment (CA)

Continuous assessment is any procedure or activity that is designed to collect information about the knowledge, attitude or skills of the learner or group of learners and is normally carried out during instruction (Yambi, 2018). Its purpose is to improve teaching and learning skills. This type of assessment is based on a variety of information sources, such as portfolios, teachers' observations, project reports and many other forms of alternative techniques. Globally, there has been a strong movement in recent years to use continuous assessment scores to improve curriculum standards as a basis for assessing learners' performance, such as in the USA (Fraser, 2019). One of the most important and significant developments in African countries, notably Kenya, Zimbabwe, Ghana, Liberia, and Tanzania, was the introduction of continuous assessment (CA) in the evaluation of students at all levels of education.

Similarly, Physics is one of the elective science subjects where teachers prepare students for final national examinations by using a variety of instructional strategies, including theoretical instruction, laboratory exercises, quizzes, tests, weekly and monthly assessments, as well as annual, and terminal mock exams (Abejehu, 2019). This study addresses the barriers that teachers frequently report and draws attention to potential explanations for why full CA implementation does not occur, despite the fact that very few students choose Physics as a subject in Zimbabwe and performance on

national examinations has been relatively low over the years, despite the high scores of CA from schools that are sent to the ZIMSEC.

Correspondingly, the Zimbabwean National Examination Council has begun holding final exams for O-level secondary school certificates prior to the completion of four years of study. This has been done with the help of continuous assessment results from the educational system, which may have improved students' Physics performance. However, there may not have been enough documentation of secondary school Physics instructors' and students' attitudes about the viability of continuous assessment in Physics courses at O-level secondary schools, which is why the current study was necessary. Thus, the purpose of this study was to examine how students' performance in secondary schools in Zimbabwe's Chimanimani area was assessed continuously.

2.2 Continuous assessment in Zimbabwe and beyond

A number of wealthy nations have embraced the competency-based curriculum (CBC), of which CA is a component, Zimbabwe is not the first nation to do so. In 2001, the French Community of Belgium included competencies into its primary and lower secondary curricula, (Jonaert, 2019).This was done in accordance with curriculum reform guidelines and also aligning education with global trends in socioeconomic growth was the main goal. Policies for education that stray from a nation's perspective on economic growth become obsolete and unwise. North America began employing socio-constructivist competence education, while America underwent considerable educational changes to build competency-based curriculum (Orelac, 2020). Competency-based policies were introduced in Mexico in 2004 for the preschool curriculum and in 2011 for the whole primary and secondary education system (Portill, 2021). Each of these countries uses summative and continuous assessment methods for evaluation. Nonetheless, a greater percentage of the final grade in a specific topic is determined by ongoing evaluation. In comparison, the Zimbabwean approach allocates 30% for continuous evaluation and 70% for summative assessment.

Malcolm (2019) claims that prior to the implementation of outcomes-based education in South Africa in 1997, the curriculum was only competency-based pedagogy. However, South Africa formally abandoned this curriculum in 2010 as a result of several internal issues and contestations (Chisolm, 2019). The massively prosperous nation of Japan likewise introduced competency-based courses and assessments.

According to Takayama (2018), the reform was a competence-based curriculum (CBC) that complied with the goals. Although in the 2007 introduction of national testing and sensitivity to (CBC) results limited the initial focus to formal education (Takayama, 2019).Hence, stakeholders reacted negatively to the Japanese competency-based curriculum in 2011.

In 1998, Zimbabwe's president established a task force to assess the curriculum's adaptability to the demands of the 21st-century workplace. The investigation aimed to identify the educational system's status and make necessary modifications. The Zimbabwe secondary education curriculum, while theoretically comprehensive, had practical drawbacks in preparing graduates for the industrialized world. The curriculum's contextual praxis of academic subjects lacked relevance and conceptual alignment to the practicalities and prerequisite demands of the technologically industrialized realm of career prospects and work. According to Abidjanova, (2018), Coltat criticized the education system's bias towards academic subjects, which betrayed its ability to adequately prepare students for the economic world. The Minister of Primary and Secondary Education was echoed in his laments at a press conference in 2014 when an introspective look into The Nziramasanga Commission was pushed for. The premise perspective suggested that it was the time to act rather than complain (Dakwa, 2016). The foundational arguments centered on the fact that, despite the fact that neighboring countries in Zimbabwe were already using this curriculum, Zimbabwe was lagging behind in terms of curriculum relevance in both Southern Africa and globally. The Nziramasanga commission was endorsed by the President of Zimbabwe to make an analytical diagnosis into the problems that were getting in the way of the education sector (Mawere, 2018).

In an effort to restructure important departments, most notably the Ministry of Education, Zimbabwe's government carried out an investigation into the country's education and training system in 1997. Several improvements have been attempted but failed between 1980 and 1998. The investigation was considered important since there had been no meaningful investigation for 35 years, including 18 years after independence. The study suggested quickly computerizing curricula, teaching careers, and schools in order to keep up with the technological demands of the twenty-first century. The study also called for a particular curriculum implementation policy framework and delayed action to avoid permanently harming all school dropouts' career

prospects. The absence of a thorough investigation of Zimbabwe's educational system emphasizes the necessity of all-encompassing changes and a comprehensive plan (Aboya, 2023).

Just in time to make proportionate its educational policies to international standards, in 2014 the MoPSE in Zimbabwe went aboard on an all-inclusive-comprehensive curriculum reform that had a target to revamp the quality of education (Juliet et al, 2021). This is a child centred approach were a child would be the definition of the education for all agenda as enshrined in the 2015 World Education Forum outcomes. For Zimbabwe to be aligned to the Sustainable Development Goal (SDG 4), the Ministry had to align its curriculum as outlined in the Incheon conference 2015. Curriculum innovations and reviews are functional prerequisite demands which translate education pedagogies to new methodical paradigms that relate to lived learner experiences directly linked to the cooperate world. Concurring with this sentiment another Professor reiterated that the curriculum review process was of great relevance and importance (Matsvange, 2021). In her perception as a qualified education philanthropist, she is of the view that the CA flows along with the global trends in education. Education is some dynamic experiential phenomena which is a progressive entity that cannot be a static object, this entails that learners of the current ages to come need to be in tandem within the relevant space of the curriculum (Sibanda , 2023). CALA has advocated in its methodologies advocates for hands on approaches where learners become active participants of their education process. In response to pragmatic approaches that are advocated for, the curriculum (CALA), if resources are available empower learners with relevant skills as compared to the one previously adopted from the Western-centric approaches which required memory regurgitation (Sibanda , 2023).

In 2014, Zimbabwe's Ministry of Education (MoPSE) implemented an all-inclusive curriculum reform to improve the quality of education and align with international standards (Juliet et al., 2021). This child-centred approach, as defined by the 2015 World Education Forum outcomes, aims to create a child-centred education for all. To achieve the Sustainable Development Goal (SDG 4), the Ministry had to align its curriculum with the Incheon Conference 2015. Curriculum innovations and reviews are crucial for translating education pedagogies to new methodical paradigms that relate to lived learner experiences. The Curriculum for all ages is relevant and important, as education is a dynamic experiential phenomenon that cannot be static (Matsvange,

2021). CALA advocates for hands-on approaches, empowering learners with relevant skills compared to Western-centric approaches that require memory regurgitation (Sibanda, 2023). The curriculum review process is seen as vital for ensuring the curriculum aligns with global trends in education.

An excessive amount of theoretical education is blamed for the growing unemployment rate since it fails to provide lasting skills necessary for sustainable growth (Kurbanova, 2020). In collaboration with ZIMSEC, government launched the skills orientation programme, which aimed to provide graduates with industry skills necessary to become job creators and entrepreneurs (Urayeva, 2020). It appeared as though the concept of a socially and economically revolutionary education was detached from the practicalities of its application. The disparity in geographic areas is one of the main causes of the constant variances in curriculum implementation. The majority of urban schools were able to implement CALA with success because middle-class families could supply the necessary resources. On the other hand, parents in rural areas with sporadic income struggled to meet the monetary demands of CALA. Undoubtedly, a huge divide between rural and urban schools emerged. The schools in economically better or affluent communities would come up with the most relevant CALA that is appropriate to modern science and technology, like computer programming, whereas those in rural areas would just be doing low-profile vocational skills such as weaving and pottery. Such a divide was a dominant characteristic of colonial education.

Relative to the above, the intentions behind CALA no longer yield any positivity as the curriculum demands are marred with a lot of implementation requirements that are beyond stakeholder capacity (Chronel, 2023). In this regard, if critical stakeholders, including parents, teachers, and school learners, feel that CALA is excluding the already-excluded marginalised, vulnerable, poor, and those living with disabilities, then it must be scrapped (Tyler, 2023). Among other calamitous concerns that have dominated outcries is the economic situation, which has reduced the country's capacity to provide free, inclusive education to ordinary citizens (Mandebvu, 2023). On top of the crippling economic situation are challenges consisting of a lack of ICT tools and gadgets, a lack of phones with internet access, a high cost of data charges, especially for the poor and marginalised minority communities, and also a lack of computers, internet software, and infrastructure in schools. In view of these essential accommodations in grim lack, CALA has become an unnecessary burden (Pulitzer, 2023).

Based Curriculum (CALA) in Zimbabwe has been influenced by policy frameworks, but changes are often hindered by complaints from grassroots stakeholders. In Zimbabwe, teachers and learners are obligated to comply with these policies, despite the need for meaningful reviews (Khamsi, 2020). In 23 Francophone countries, teachers were trained in the best approaches to CALA with financial support from OIF, UNICEF, UNESCO, and the European Union. However, in Zimbabwe, teachers are not adequately trained to implement CALA with an inclusive approach, and demotivation and falling teacher professional standards stifle successful implementation (Gatawa, 2019). The introduction of CALA has led to irregularities, with some teachers demanding money from students to guide them or do CALA for them. The assessment model proposed by MoPSE in 2015 suggests both summative and continuous assessment, contributing 70% and 30%, respectively, to the final grade. This research paper aims to evaluate the efficacy of CALA in producing holistic academic graduates who can integrate technology with their skills. The researchers aim to make a constructive critical evaluation of stakeholder perceptions and draw out probable recommendations.

The model was created by MOPSE in 2021, hence the creation of useful assessment tools for this activity is essential to its successful use. In addition to enabling instructors to evaluate a broad variety of characteristics, competencies, and abilities, the activities should give feedback on what and how students learn and turn assessment into an engaging learning process (Kadungure, 2022). The tasks must therefore be manageable, explicit, objective, legitimate, and dependable. These activities must be properly created since they will be used for both formative and summative assessment reasons. This will ensure that the tasks are credible, well-constructed, and have beneficial consequences for learners, such as motivation and the acquisition of key ideas that lead to mastery, problem-solving ability, and application of what is learned (Arnold et al,2020).

Furthermore, the preamble of the Physics syllabus states that CALA assists learners in understanding and interpreting religious and moral concepts in their daily lives. Under CALA, pupils are supposed to carry out projects and tasks in schools, which will constitute 30 percent of their coursework for the final Zimbabwe School Examinations

Council (ZIMSEC) examinations in each subject area, while the remaining 70 percent will be summative evaluation in the form of the traditionally written examinations. Director of Information and Advocacy in MoPSE said those who doubt the success of CALA will be shocked, sarcastically calling them 'naysayers', (Muranda, 2020).

2.3 The conducting of CALA when teaching Physics

With CALA, ZIMSEC candidates' physical and behavioural skills are assessed continuously to contribute 30 percent to their final mark. Summative or knowledge skills assessed during examinations contribute 70 percent to the candidate's final grade (Muranda, 2022). The teaching and learning process requires continuous follow-up, and the educational progress of the learners needs frequent assessment. According to Alausa (2020), the various dimensions of the learning activities of the learners should be assessed by various methods. The understanding is that the variety of assessment techniques strengthens the quality of education and fulfils the weaknesses of each assessment technique. Chief Director (Secondary and Non-Formal Education pointed out that CALAs would be examining three domains: the cognitive domain, which is the knowledge domain schools have always been doing, as well as the psycho-motor and affective domains (Tsygankov, 2021). This started with effect in November 2021. The Grade Seven, Ordinary, and Advanced level teachers' training is now complete. The coursework contributes 30 percent of the total examination mark, with effect from the November 2021 examinations. It was actually an advantage to learners, over and above mathematics, science, and English, and will broaden the curriculum to give them an opportunity to excel in other areas (Downey et al., 2021). Assessment has to be holistic and authentic because a learner's potential is not only what they keep in their heads but also involves other skills.

The new competence-based curriculum is broad; things like sports and visual performing arts, which used to be extra-curricular activities, are now part of the curriculum. This assessment intends to develop the skills of every learner. For example, a student can answer a theory paper in two and a half hours and then get an A in Physics, but how many people write Physics theory as much as they put it into practice? People practice more, so CALA will be adding the practical expectations component so that learners get an opportunity to be real engineers and electricians in their day-to-day lives. At the secondary level, especially Forms 1–4, learners explore a broad-based curriculum in which they acquire the necessary competencies from the different

learning areas mentioned above (Abera, 2020). The learning areas in Forms 5 and 6 prepare learners for options such as tertiary and self-employment.

Recently, Zimbabwe's Cabinet has announced significant changes to the national curriculum, replacing continuous assessment learning activities (CALA) with schoolbased projects. This move is part of a broader initiative to modernise the education sector and equip learners with essential skills for the future (Dube, 2023). The HeritageBased Education Curriculum (2024–2030) aims to develop critical thinking skills and practical knowledge, empowering students to address real-world challenges and contribute meaningfully to society (Makuvire, 2023). Primary and Secondary Education Minister emphasised the need to rationalise CALA, which had proved cumbersome and impractical for both teachers and learners. As part of the implementation strategy, Moyo announced plans to introduce "internet in the box," a localised server system aimed at providing free access to educational materials in rural schools (Mufanechiya, 2023).

2.4 Challenges faced in implementing CA

An important turning point in Zimbabwe's educational system has been reached with the implementation of the Heritage-Based Education Curriculum, which heralds the development of a more flexible and adaptable curriculum. While there are many benefits to continuous assessment, there are drawbacks as well. For example, students may lose out on real-world experiences during single-sit public examinations at the conclusion of a cycle. According to Bjaelde (2023), there are three difficulties with continuous evaluation. They are as follows: Teachers must devote time to it, which they might not have, especially in light of the demands of exams. Students believe they are not given enough time to relax and are continuously evaluated. Plagiarism and cheating are rampant. The knowledge gaps among teachers make it difficult to conduct ongoing assessment.A lot of educators lack the abilities necessary to conduct continuous assessments successfully because they have not received training in these methods. Teachers require the proper information, abilities, attitudes, and beliefs, claims Carl (2019). The government and schools seldom ever host workshops and seminars to instruct teachers on continuous assessment across the majority of the world. These seminars might be helpful in determining which tools are best for ongoing evaluation

and how to grade them. As the assessment is not conducted under strictly regulated examination settings, qualitative results might emerge.

Failing to implement a continuous assessment framework results in teachers relying on testing the cognitive domain to the detriment of the other critical domains consistent with continuous assessment. Ahukanna et al. (2017) found out that for the continuous assessment approach to be successfully implemented, teachers need to give a lot of tasks related to real-life contexts, which means more marking. Continuous assessment demands the teacher's time, initiative, patience, objectivity, diligence, resourcefulness, and many other skills. All may justify why teachers have a negative attitude towards continuous assessment. Abiyu (2015) raises the issue of record-keeping as one big challenge. For continuous assessment to succeed, record-keeping has to be done adequately and meticulously. The profile of each student should be monitored throughout the whole year, and keeping records of the progress or lack of it becomes very important (Tebeje, 2018).The security and credibility of the continuous assessment marks should not be compromised. The other notable challenge is related to plagiarism. When learning tasks such as projects and portfolios are not given adequate time, students may find people to do the work on their behalf (Marongwe, 2022). There is no control over what is produced by the learners.

2.4.1 Teacher knowledge levels on continuous assessment

If CALA properly and holistically implemented, continuous assessment brings hope of better prospects for students (Dziva, 2019). This requires that teachers possess the proper knowledge and skills to handle continuous assessment practices and processes. Embiza (2020) in their research found that most teachers had good knowledge of continuous assessment. Yet, they were quick to mention that they were aware of the negative attitude which surrounds continuous assessment in educational institutions. However, teachers have limited information on how to administer and implement continuous assessment. The teachers are aware of the advantages of CA but have developed a negative attitude due to poor preparation on how to administer it effectively (Matsvange, 2021). Teachers thus have limited skills in constructing assessment tasks, implementing CA protocols and effectively evaluating them during the teaching and learning process.

2.4.2 The perception towards the use of CALA.

The introduction of continuous assessment in schools has created many questions, and many are still unanswered. Following the approval of the New Curriculum Framework, the Ministry of Primary and Secondary Education came up with a framework for implementation from 2015–2022 (Kadungure, 2021). The government's insistence on the implementation of Continuous Assessment of Learning Activities (CALA) has created a cloud of confusion about the possible success of the program, as stakeholders in the education system are accusing the Ministry of Primary and Secondary Education (MoPSE) of ignoring their input before implementing the ram. Therefore, teachers have a negative perception of the implementation of CALA.

Amalgamated Rural Teachers Union of Zimbabwe president described CALA implementation as the worst nightmare being endured by learners and teachers (Sithole, 2021). Rural schools were once affected by the COVID-19 pandemic and accessibility to resources was very difficult for students in rural areas. The speaker cited a poor network system in rural areas, hindering teachers' ability to research relevant topics. He also mentioned that some children live with grandparents who are unable to read or write, leading to poor results. This may not accurately reflect learners' exit profiles but rather masks the education sector crisis.

In June 2021, the National Association of Secondary Heads (NASH) wrote to the ministry of education, advising it to delay the implementation of CALAs until at least January 2022. This was supported by Kadungure (2021), who stated that the number of projects per learner (five) is alarming. If a learner does eight subjects, for example, within the remaining period of the year before examinations, the candidate must cover 40 projects. This is not realistic, unless NASH is not comprehending CALA properly (Takayama, 2021). It also follows that for a class of 40 candidates, a teacher marks 40 x 40 projects, and if the teacher teaches five classes of 40 learners each, the teacher is obviously overwhelmed and the whole process is compromised. It would then not be a surprise to come across advertisements in the streets like ‘we sell CALAs’ (Takayama, 2021).

The government is using every tactic to impose CALA this year when it shouldn't because of the restricted amount of time for education, according to, Deputy Secretary

General of the Amalgamated Rural Teachers Union of Zimbabwe (Tsvere, 2021). He said that CALA was being conducted during an exam period when students did not have adequate time for ongoing education. Therefore, students who did not participate in continuous learning for two years cannot be taught CALA. Teachers lack knowledge of CALA and are unsure of who should submit questions, while schools in rural regions lack internet connectivity for distant learning, (Nkhonde, 2021).Zhou further contended that the process has been tainted by confusion due to time constraints; that CALA is more related to a commodity approach and does not work, resonate with CALA that we know as a product of continuous assessment learning areas (Kasaira, 2021). It is something that comes from a barbaric militarism and does not commensurate with educational skills; that the whole point of CALA is the blending of theory and practical experience; that due to time constraints, students have started hiring other people and unemployed teachers to accomplish this for them. Zhou (2022) asserted that CALA is funded by donors and the Ministry of Education is not reversing it because they wish to receive donor funds.

Majongwe (2021) argues that the implementation of CALA is equally as problematic as the introduction of the new curriculum since it is being done hastily, without funding, in a haphazard manner, and without a pilot project that has essentially enhanced the intended consequence. He went on to say that while CALA appears admirable and appealing, due to inadequate design and programming, it ultimately becomes simply another exercise that yields fake results, encouraging teachers to manipulate grades and producing an unneeded consequence.

The present continuous assessment system, according to Quansah (2015), focuses only on homework, class exams, and exercises. Project work, on the other hand, is the most significant learning tool that enables students to actively participate in their own education. According to Kapambwe (2019), problems that make the implementation of CA difficult include: big class sizes; insufficient funding to provide critical resources; teachers' continued perception that the CA required a lot of time from them; and inadequate teacher training. They consequently did not think they would complete the course with CA. Some educators mistakenly believe that CA equates to ongoing writing.

Furthermore, a study by Seifu (2016) revealed that teachers did not view it as a part of their job, that there were plenty of instructional materials available, that there were many students in a classroom, that teachers did not know how to implement different assessment techniques, that instructors did not communicate well with relevant bodies about it, that students just cared about getting good grades rather than identifying their own knowledge gaps, and that university administration supported and encouraged the

use of CA as desired. This study was necessary because, after all of these investigations, there is still no conclusive link between teacher's views and CALA in Physics.

2.5 Strategies used towards the implementation of CALA

The training of teachers for the continuous assessment program is currently underway. The Ministry of Primary and Secondary Education (MOPSE) influences the relevant ministries and departments to urgently address the incapacitation of teachers to help the system recover and function properly (Furatirai, 2021). That is because the environment in schools is deeply disturbing and needs urgent redress. It is also recommended that there be two forms of assessment, namely formative and summative. Conversely, the National Association of School Heads (NASH) said in its letter that the ministry should have first addressed issues at hand before implementing CALA.

There is also funding for workshops and the welfare of teachers. Teachers and schools are being forced to fund workshops that are called at short notice, yet schools are reeling under financial challenges due to poor payment of fees by parents (Mpofu, 2021). The welfare of teachers is heavily compromised and there is no proper accommodation for the incapacitated teachers. This compromises the whole training programme and the implementation of CALA.

NASH also appealed to the Ministry of Primary and Secondary Education to influence the relevant ministries and departments to urgently address the incapacitation of teachers to help the system recover and function properly (Dube, 2021). The current environment in schools is deeply disturbing and needs urgent redress. Heads need more thorough training on CALA so that they come to grips with what they ought to supervise on the ground. This piece of meal training would compromise the whole process.

2.5 Research gap

Since CA is a relatively new issue in Zimbabwe, not much study has been done on practical implementation strategies. Although Nigeria and other African nations have adopted it, there is limited literature on this subject. Since CA introduced in the realm of Zimbabwe education, stakeholders faces challenges in implementing it. This is due to the lack of study on Physics as a subject and the fact that stakeholders are never

consulted during curriculum development. Once more, even with all of the previously stated arguments in favour of CA, which are increasingly being utilised in the regular teaching and learning of Physics, CA has too many flaws and as a result, Physics is regarded as the most challenging topic in the field, and because of that, Physics is considered the most difficult subject within the realm of other subjects, such that it has traditionally attracted fewer pupils than arts subjects. Besides the low uptake, learners' performance in Physics has been generally low, especially in schools in rural Zimbabwe. Therefore, the research gap emanates from the start when CA was used and the issue of limited literature is also of great concern. This study sought to address that literature gap as well as understand some missed issues that arose from the introduction and implementation of CA.

2.7 Chapter summary

This chapter provided a literature review that tried to link the study with what various scholars, newspapers and publications say concerning CA. These publications and newspapers explain the views and perceptions of various stakeholders concerning CA in Zimbabwe and beyond. The following chapter will provide the methodology of the study.

CHAPTER THREE: METHODOLOGY

3.0 Chapter introduction

This chapter presents the research methodology, as systematic way to solve the research problem. In this chapter the study provides an overview of the key methodological decisions in this research, along with rationale for these decisions, given the purpose and questions of the research. The study reviews the research approach and procedures, followed by a description of the used data collection instruments. Also presents the participants who contributed to the findings of this research, the list of sampling criteria and procedures defined to recruit them. The chapter also describes ethical and finally, identify some of the methodological limitations, while acknowledging the strengths of this research study.

3.1 Research design

A qualitative approach was used to obtain the information needed to drive the conclusion about the implementation of CA in the teaching and learning of Physics. Newman (2021) states that qualitative research operates within the area where people create and maintain their social world. This approach was used to understand subjective experiences, beliefs and concepts of CA, as well as provide an in-depth understanding of how participants interpret first aid issues and phenomena. A qualitative approach was used to explore problems and generates new ideas in the implementation of CA. This was supported by (Silverman, 2022) as he argues that qualitative research can study phenomena in a different way. Qualitative research was done as it addressed the “how” and “why” research questions and enabled a deeper understanding of experiences and context. Qualitative research allowed the study to ask questions that cannot be easily put into numbers to understand human experience. Therefore, qualitative research provided flexibility, was highly focused and enabled the study to be completed quickly. From the word "qualitative, it provided quality results and actual findings, thus benefiting teachers and students. It enabled the study to get a more holistic picture of the answers to the research questions as well as gain deeper insight into the usage of CA in the teaching and learning of Physics, a case done in Chimanimani district.

The case study was used as a qualitative research design in this study. The case study research method is defined by Yazan (2020) as an empirical inquiry that investigates a contemporary phenomenon within its real-life context when the boundaries between phenomenon and context are not clearly evident and when multiple sources of evidence are used, hence justifying the use of it in this study. The case study method allows for a close examination of data in a specific context, such as a small geographical area or a small number of individuals as subjects of study (Bowen, 2019). The geographical setting of this research is Chimanimani, one of the Manicaland districts and this justifies the use of the case study. A case study entailed a deep understanding through multiple types of data sources in this study. For example, the study used a case study methodology to examine the implementation of CA in the teaching and learning of Physics and using both documents and interviews as data sources.

3.2 Target population

The targeted population in the Chimanimani district was selected because it was purposefully considered to be of manageable size and they are expected to supply useful information for the study. The study described the target population as the entire group of research participants which included Physics teachers and learners from 10 schools in Chimanimani district. Ten schools were chosen due to the fact that they are the ones that are now offering Physics in Chimanimani district. All members of the population have some common characteristics desired for the study, as this made the sample generalizable and justifiable. In the present study, one hundred and seventy-six` people comprised the population. It also targeted key informants from the MOPSE (district level) as well as leaders from Chimanimani teachers unions; they were selected as they provide information on CA policies and regulations in the education system. The study was carried out without any specifications on the sex, age or ethnicity of the pupils and teachers. In this study, teachers and learners were the target population because they were thought to be reliable informants with accurate information that could answer the best questions of the study.

3.4 Sample and sampling

Turner (2020) defines a sample as a smaller set of data that the study chooses or selects from a larger population by using a pre-defined selection method. Sampling is a portion of the sample that is representative of the entire population. Sampling allows for the

generalisation of data to the whole population and reduces the costs of collecting data. Purposive sampling was done to produce accurate information since there is a limited area of operation as presented in the table 3.4.

Table 3.4: shows the statistics of sample used in the study

Participants	**Population**	**Sample size**	**Sample %**
Physics teachers	10	10	100
Learners	160	100	62
Key informants MOPSE	3	3	100
Others from teachers union	3	3	100
total	176	116	65

The sampling technique helped the study collect qualitative data. Using the purposive sampling technique, the study selected 100 students and 10 teachers from the 10 schools. The study also purposefully selected three key informants from the Ministry of Primary and three others from the teachers' unions based in Chimanimani.

3.4 Data Collection Instruments

Research instruments are the tools that are used in the study to gather data from the sources that have been identified for the research. In this study, interviews, questionnaires and document analysis were used as data collection instruments.

3.4.1. Interviews

Physics teachers and learners were mainly interviewed to gather data on the challenges experienced by both learners and teachers in trying to implement CA in the teaching and learning of Physics at the ordinary level and possible solutions they had in mind to counter the problems. Key informants from the MOPSE (district level) as well as leaders from Chimanimani teachers' unions were interviewed as they provided information on CA policies and regulations in the education system. This means that the participants were asked questions concerning the usage of CA, and their responses

were recorded. The interview guide helped the study answer major research questions formulated to guide the study, which included, "What are the challenges faced in implementing CA? What is the perception of learners' and teachers towards the implementation of CA in the learning and teaching of Physics? What are the effective ways of enhancing CA in Physics" in secondary schools? The semi-structured interview protocols were designed to gather data in the participants' own words so that greater insight could be gained about the teaching and learning process. The semi-structured interview was suitable for probing views and permitted participants to develop and expand on their own responses based on the implementation of Physics CA. The issue of validity for both structured and semi-structured interviews was addressed by ensuring that questions were related to the research objectives, as was supported by (Gray, 2019). The interviewees were provided with focus questions to afford them the opportunity to think about their responses before the commencement of the interviews; this created room for rich and constructive discussion. The interviews were done through Google Meet, where questions were modified to obtain the required information. However, there are certain disadvantages to interviews, such as providing less anonymity, which is a big concern for many respondents, and the respondent's answers can be affected by their reaction to the interviewer's race, class, age, or physical appearance. However, the study used multiple instruments to check the reliability.

3.4.2 Questionnaire

KoB0 Toolbox was used for offering a wide range of question types and also ensuring data validation, security and quality control. The Kobo toolbox supports offline data collection from students who do not have access to continuous internet connection as it was an open-source but customizable platform designed for data collection in the field with a variety of gadgets, including computers, paper and phones. It is reasonable in terms of time, reaches out to a large number of respondents and gives teachers and students a chance to voice their opinions regarding the implementation of CA in ten schools. Ten Physics teachers and one hundred randomly selected students received questionnaires that were created specifically for collecting data on the usage of CA in the teaching and learning of Physics. Confidentiality, economy of expense and standardisation of questions and responses are some of the advantages gained by the study after using questionnaires. Self-administered questionnaires are straightforward

for respondents to complete and easy to analyse since they employ pre-defined responses and do not demand any specific abilities.

Nevertheless, research questionnaires have some shortfalls, such as not questioning respondents if they give insufficient responses. Compared to in-person contacts, Cohen, Manion and Morrison (2019) contend that questionnaires are more successful at maintaining respondents' anonymity and hence enhance the likelihood of obtaining correct information from them. Conversely, disadvantages of a Kobo Toolbox questionnaire included that respondents delayed answering the questionnaires due to complaints about poor internet connectivity, data bundles, or a lack of mobile devices. To overcome this, follow-ups were done on the distribution of questionnaires by recording the number of participants who received the documents.

3.4.3. Document analysis

Document analysis is another source of data collection that was used in this study. Nieuwenhuis (2020) states that, when a study uses document analysis as a data gathering technique, the study focuses on all types of written communication that may shed light on the phenomenon being investigated. In this study, an analysis of subject policies, a school-based moderation tool, minutes of meetings on curriculum and curriculum management tools was done. These were the primary source documents that were used in relation to the phenomenon under investigation. These were useful sources of information, as they acted as guiding documents that directed schools towards the successful implementation of CA. It is also free from reactivity, particularly when the document is written for other purposes (Myers, 2019). The document study offers an opportunity for longitudinal analysis. However, many documents are incomplete and unstandardized and thus the study encountered difficulties in coding and analysis. Therefore, the data from document reviews was triangulated with the data from interviews.

3.5 Data collection procedures

In its quest to collect data, the study sought permission from BUSE-responsible authorities to conduct the study. The study was conducted on working days because that is when children and teachers are at school. This simplified the procedures for

recruiting students at the schools. The research requires participants to share even confidential material, so no personal information was requested to ensure that they did not fear sharing information. The study conducted the interviews using Google Meet voice notes after agreeing with the participants

3.6 Data Presentation, Analysis and Interpretation Plans

Qualitative data analysis is a way of making sense of how participants make meaning of a specific phenomenon by analysing their perceptions, attitudes, understanding, knowledge, values, feelings and experiences. Cresswell (2019) supports the definition of data analysis as the process of bringing order, composition and significance to the unprocessed data that was gathered in the field. The study established how the participants in the study made meaning of the implementation of CA and discovered their understanding, attitudes and experiences of curriculum change. This was based on the participants' views and conceptions of the implementation of CA in Physics curriculum. Thematic analysis was based on examining themes in the data collected from the field. It is very significant in this study because it provided the platform for the analysis of themes, thereby resulting in proper analysis. The data were presented qualitatively as narratives in the form of words developed around themes that emerged from the data that had been collected through various methods.

The study ensured that each piece of raw data was identified with a unique code for reference purposes. McMillan (2018) describes coding as the process of providing data into parts by classification systems, segmenting the data into topics by using predetermined categories to break the data into smaller sub-categories. In this research, the process of data coding is defined as the breaking down of data into manageable themes, patterns, trends, and relationships to understand the various elements. The study divided the data into meaningful inductive categories, guided by research questions and the interview theme. This involved the reconstruction of participant accounts and the categorization of the personal accounts into themes that emerged.

3.7 Reliability and validity

According to Punch (2019), an instrument is considered valid when there is confidence that it measures what it is intended to measure in a given situation. If the trustworthiness

of a study is not ensured, then the validity and reliability of the study will be questionable and the aim of the study will not be met. Therefore, there is a need for the study to ensure the rigour and trustworthiness of the methods used in it (Banu, 2019). Meriwether (2020) has commended the value of pilot testing of instruments to reduce the ambiguity of items and enhance reliability. Bearing this in mind, the questionnaire and interviews were pilot tested with the supervisor on this research. The objectives of this pilot study were to determine the clarity, relevance and effectiveness of the questions in eliciting information from the two groups of participants. In addition, piloting provided an opportunity to practice interviewing skills and identify any practical issues that might arise in the main study. The interview guides for the pilot study were gradually developed through informal discussion and validated by simulated interviews with the supervisor and colleagues. The pilot study interviews were conducted with two school teachers who live close to where the study takes place. Google Meet interviews were held; notes were taken and asked for clarity where the interviewer did not understand to capture the correct data. Before the interviews, all the interviewees were asked to give permission for recording data in writing. The interview questions for the Physics teachers and other stuff focused on the challenges in implementing CA and possible solutions to these problems. The duration of the interviews was, on average, 15 minutes for the teachers. All informants were aware of the anonymous treatment of their answers. Following the pilot study, minor changes in wording were made. Most eventually put a tick on all listed items. The survey instrument was modified to ask teachers to rank the items in order of importance, allowing enhanced information on teacher priorities. In addition, the interview scripts were modified to identify follow-up questions that could be used to prompt or elaborate responses from stakeholders.

3.8 Ethical considerations

The study upheld most research ethics. Informed consent was applied when all the respondents were asked whether they wanted to participate in the research or not. Permission was asked for to carry out the study from the Ministry of Primary and Secondary Education. The officials were given a letter from BUSE indicating that the study intends to conduct academic research and will adhere to research ethics. There were also some steps that were taken to inform the participants about the research and to seek consent from respondents before they were involved in the research. Consent

forms were even given to the respondents to sign. Babbie (2023) states that confidentiality should be upheld where the information provided by the respondent should be confidential and that was done by not associating data with the names and identities of the participants.

3.9 Chapter summary

This chapter looks at the research methodology that was used in this study. The study used a qualitative research methodology to investigate how CA is being implemented and the challenges being encountered. It also identified the study location and target population and displayed the sampling method and sample size. More specifically, data collection methods and a data analysis plan were discussed. Also in this chapter, a feasibility study was made and the delimitations of the study and ethical considerations were explored. The next chapter will present the data as well as analyse it.

CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS

4.0 Introduction

This chapter presents and analyses the data that was collected during the investigation into the usage of continuous assessment (CA) in the teaching and learning of Physics. To systematise the discussion, the chapter attempted to fully answer the research questions in their order of presentation, with the literature review and the theoretical underpinnings on challenges faced when conducting practical work. The research questions guided the project to achieve this goal. The research findings were presented in relation to the research questions around which the collected data was themed and in their order of mention, as in Chapter 1. This implies that there will be a discussion of the results after the presentation. Data was acquired through questionnaires and interviews. Thematic Content Analysis was used to analyse the data. The information was displayed using themes. The results were then discussed in connection with the research goals and the examined literature. Furthermore, in presenting the data, the researcher makes use of tables, pie charts and bar graphs to make interactions with the results easier.

4.1. Participants of the study

Data collected from hundred and twelve participants out of hundred and sixteen selected sample thus, (96%) participated in the study.

Table.4.1. shows the response rate

	Teachers	**Learners**	**Key Informants (MOPSE)**	**Key Informants (Teachers Unions)**
Interviews	6	0	3	3
Questionnaires	10	100	0	0

MOPSE key informants and teachers' union were represented in the sample with three participants each and regarded as important informants from the Chimanimani District. Out of selected ten teachers, both participated in the process of answering the questionnaire and 6 in the interviews. Then 100 Physics learners of Chimanimani District participated in questionnaires.

4.2. Implementation of CA in teaching Physics.

The results demonstrated that CA is being applied to candidates for 2024. The study acknowledges that the CA was conducted in a way that permits the student to do research and critically evaluate the results. An important MOPSE participant felt that

> *"CA has endeavoured to examine three areas: the cognitive domain, which is the classic knowledge domain, as well as the psycho-motor and affective domains. Coursework accounts for 30% of overall examination marks, and this begins with the November 2021 examinations. It is actually advantageous to students since we are broadening the curriculum to provide them with opportunities to excel in areas other than Math and Science. We are nearing a period when assessment must be holistic and genuine because a learner's potential encompasses more than what they recall."*

The results demonstrate that teachers aim to improve each learner's skills when they perform (CA) with students. The results also demonstrate that students are assigned assignments with the expectation that they conduct research on them. This implies that they would visit the community and do study related to the assigned work. According to Teacher E,

Students will undoubtedly put in a lot of effort to finish and pass their daily assignments if they become accustomed to the notion that their daily evaluation of schoolwork, such as homework, projects and daily exercises, counts towards their final examination.

A key informant from MOPSE further stated that;

"Each learner must have five tasks, meaning the teachers will assess their learners five times so as to improve the way they argue and analyse their findings.On how they award marks to learners: Teacher F mentioned that,

> *"Marks will be awarded for evidence of methods used to collect data, knowledge of data presentation, ability to present data clearly, and knowledge of data analysis.*

This demonstrates that CA is carried out in accordance with government regulations, and educators and students are only carrying out the process. This data supports

Kadungure (2023) explanation that CA fosters communication between educators and parents since students are required to do research and use instruments like questionnaires, interviews, and observation to acquire data. As a result, CA is essential and must be followed strictly.

4.3 Perceptions of continuous assessment (CA)

According to the conducted interviews, instructors in rural areas emphasised the need of using continuous evaluation to encourage increased student engagement in both academic and practical activities. Most teacher participants thought that students would benefit from ongoing evaluation. The opinions expressed below are the opinions of ten educators who were specifically chosen from the district's ten schools since they are the only ones who provide physics. According to Teacher C,

> *Once learners get used to the idea that their daily assessment of schoolwork like homework, projects and daily exercises contributes to their final examination, they are bound to work hard to ensure that they complete and pass their daily work.*

Teacher A said that:

> *Learners would also ensure that their parents or guardians are involved in their schoolwork activities because a project done at home as homework would contribute to their end-of-term class position. Obviously, homework will be marked from home before being submitted at school, without unnecessary errors.*

Teacher J impressed that:

"Learners have improved as far as classroom participation is concerned since they are aware that their participation contributes to their final assessed mark." **4.4: Challenges faced in the implementation of CA**

The results demonstrated that learners and teachers faces several challenges while implementing CA. About 90% participants revealed that putting CA into practice was challenging.

4.4.1 Teachers are not well trained about CA

The results unequivocally demonstrate that teachers struggle to use CA because they lack enough training in the subject. They find it difficult to do the numerous duties they are expected to oversee and evaluate on time. The number of teachers who had proper training and those who did not, depicted in the figure 4.4.

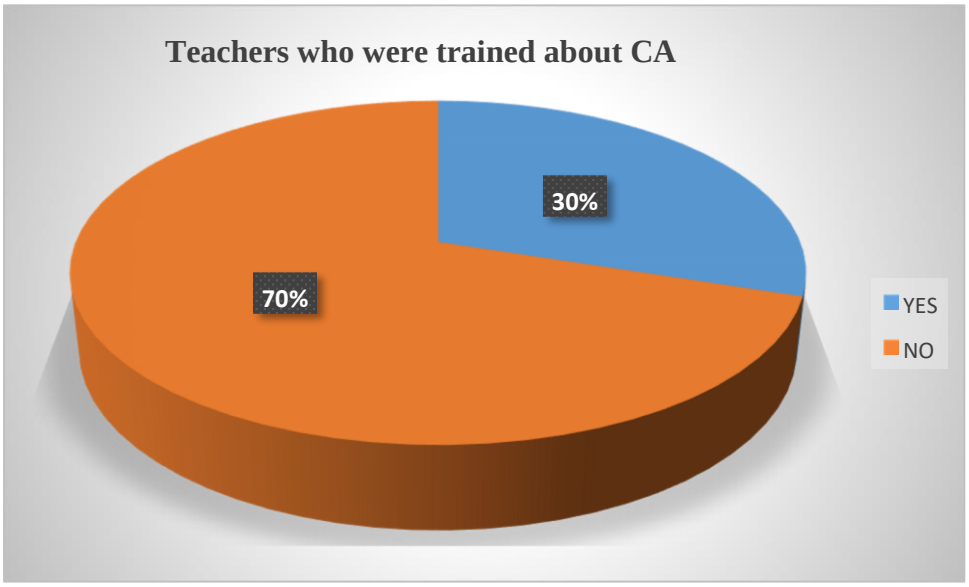


Fig 4.4. Shows percentage of teachers who are trained about CA

The pie chart in Fig.4.4. Showed that only 30% of the participants were well trained about CA, and the remaining 70% were not. This finding was also confirmed by participants who participated in interviews. One of the teachers' unions pointed out that,

> *"Most teachers have no idea or knowledge of how to conduct CA lessons and tasks. They find it difficult to address some of the concepts and demands of CA tasks. Besides that, it is difficult to implement something that you were never told how to do."*

A learner number 90 argued that,

> *"…Our teachers showed that they do not know about CA; sometimes if you ask them about a question, they will tell you to go and search on Google or to go ask your parents".*

Participant 3 from MOPSE have the opinion that,

> *"Teacher were not equipped with skills and knowledge on how CA must be conducted. Training was done where all primary and secondary school teachers were combined. Teachers therefore, did not have time for training to implement CA programme in their respect subject areas."*

This indicates that teachers do not have the kind of training necessary to use CA. They will even be able to instruct students in record-keeping, data collection, and research techniques, to name a few, thanks to the training. The lack of consultation between professors and students during the planning phase is the root cause of this issue. According to research by Mathanda (2022), the government should reconsider the CA policy because it was made in a hurry. Stakeholder analysis is a prerequisite for every policy's implementation. Here, parents, students and teachers are the main participants in any educational system, but the government never cared to address the issues that arose during the implementation of CA. The implementation is challenging since the teachers did not receive enough training.

4.4.2 Lack of incentive for the teacher

The results also demonstrate that teachers lack incentives, which deters them from being motivated to help the students. The participants claim that because they are not receiving more pay, teachers constantly threaten to go on strike. This always has an impact on how CA is implemented. Third party from the Teachers' Unions made the observation that,

"Teachers are having financial difficulties. As you can see, in order to assist these students, I had to dedicate over twelve hours a day. In addition, I teach six classes and am paid little for them. Some of these things are not being done correctly since this is demotivating me as a teacher". About 20% of the students pointed out that,

"It's boring that whenever you ask the teacher for assistance, he will always complain. Sometimes the teachers seemed not interested because they were not getting the motivation they needed." About 10 students pointed out that,

> "*Teachers have a lot of tasks to do, and at the same time, they have many classes to teach, and with all this pressure, they earn little, so usually, due to poor*

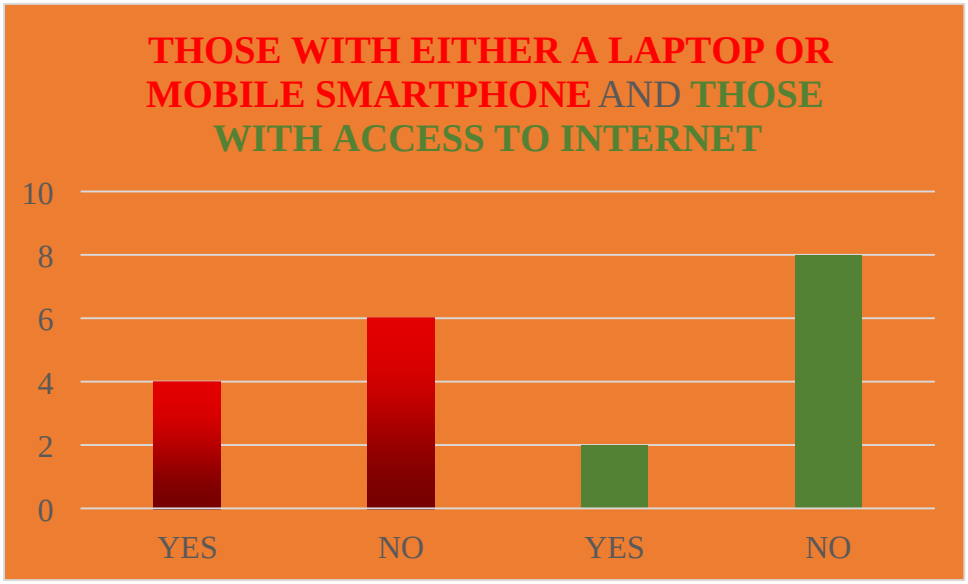
incentives, they will always be on a slow mode and this is why the implementation of CA is being criticised."

It shows that teachers are demotivated because of the meagre salaries they are receiving from the government, so they do not want an extra work load on their shoulders. This means that incentives are very useful to teachers because they motivate them. Participant 2 from the Teachers Union was quoted as saying,

"Teachers are not happy with what they are getting. Currently, the teachers don't have the capacity to competitively evaluate and supervise CA projects because they are not motivated. Their salaries just need to be reviewed". This is the reason why there is a negative attitude towards CA in ten selected schools in Chimanimani District.

4.4.3 Lack of resources

The results also showed that disparities in opinions on the use of CA can be attributed, in part, to a lack of resources. The results show that, among other things, there are not enough document sources (textbooks, magazines, and newspapers), internet access is limited, and learning devices are not available. This is supposed to make it more difficult for schools to implement CA. The number of students who have internet connection as well as those who own a laptop or smartphone is displayed in the graph 4.4.



Graph 4.4.shows number of students with ICT tools

The results depicts those who have access to the internet via a laptop or mobile smartphone and those who do not. Based on the data presented in the graph above, only 40 out of 100 students possess a laptop or mobile device, with the remaining 60 not

having either. Additionally, it demonstrated that of 100 students, 20 had internet connection, while the other 80 did not. Teachers and other important informants who were quoted as stating the following also backed this:

> "*Most learners come from vulnerable families, so it is difficult for them to have access to mobile phones and even the internet. The schools do not have Wi-Fi, so it is difficult for learners to conduct their research online. This hinders the implementation of CA.*"

During interviews, one student stated that:

> *Some learners did not manage to submit given tasks on time because of different challenges such as lack of gadgets to use for research at home, lack of internet connections and lack of parental support*

Teachers and students find it challenging to CA because to time constraints for administration, a lack of resources, and a shortage of materials, as stated in the study. Gama (2022) supports with a research he conducted in Chirumhanzi district, which demonstrates that schools lacks internet connectivity and students were unable to obtain some resources, such as textbooks. A portion of the tasks given to students need them to use online resources, where they do research to gather information for projects. Nevertheless, out of ten schools offers in the Chimanimani District, eight schools do not have internet access. These are the challenges that teachers and learners face when completing CA. **4.4.4 Lack of time**

The availability of time determines the implementation of CA in the teaching and learning of physics as a subject. The table above confirmed that 85% of participants supported the idea the idea that there is insufficient time for teachers to implement practical CA work with the learners. Teachers F have the opinion that,

> "*Lack of time available in classes and in teachers own schedules for planning is a major factor influencing the integration of the CA method in the teaching and learning of Physics."*

50% of the participants encountered a challenge with time management as the time given does not accommodate every learner's ability to participate, especially in situations where materials are limited. 25 learners have the opinion that,

There insufficient time to ensure that every student participates and understands everything. Distraction from the surroundings, particularly when the activity is done outside of the classroom, was the second issue.

To further add on to that, there were disturbances from the management as the management could call you on the midway point of the practical activity to attend a management meeting for example, responsible authorities (RA) in mission schools. Findings from Teachers,

"*The syllabus or concepts needed to be covered are too much, for example, when dealing with the topic of nuclear physics with 3 to 5 lessons on average with traditional methods, but if we use experiments and CA, they take about a month, of which CA only contributes 30% and the final exam contributes 70%; therefore, it's much better to cover the syllabus than concentrate with a lower percentage.".*

The availability of time determines the use of modern methods in the teaching and learning of Physics. (Hattingh, 2020) posits that limited time highly affects the practical work. When the teacher's time is over, another teacher has to come in, which in most cases forces teachers to stop without attaining the required results or learners understanding the topic. Also, for the reason of not having a science laboratory, teachers are forced to place their setup apparatus in an uncontrolled environment like a classroom. By so doing, the apparatus is highly disturbed by learners who want to explore what is going on, which leads to disturbed, if not false, results. When the CA was done outside of a class, another respondent faced the problem of keeping learners' attention as they were distracted by the environment, which made them lose concentration.

4.5 Strategies that can be adopted for an effective implementation of CA

The results also demonstrated the necessity of implementing specific strategies to ensure the successful execution of CA in schools. These strategies will be helpful to the government, learners, and teachers, as well as their representatives. These strategies are presented as follows.

4.5.1 Stakeholder Consultation

The study results show that some of the participants were saying that there was a need for stakeholder consultation before the introduction of these issues. The participants indicated that they were not consulted when the government initiated this CA issue. They are only needed for implementation and that is why they are struggling to implement it. The participants who were interviewed and answered open-ended questions had this to say:

> *"There is a need to consult teachers and all other stakeholders when it comes to these issues. Stakeholder engagement is of paramount importance because it helps planners come up with the exact requirements of the issue being planned. It will help the planners understand the challenges that might be encountered so as to come up with solutions."*

> *"Even unions were not consulted on this CA thing. I think next time they need to invite us so that we can plan things together. Even if there is a need for a review, we must be there so that we can air out our views."*

> *"We, as learners, must be invited when they are planning these things. At least we have our contributions, which will help you as children have the right to learn."*

4.5.3 Incentivizing the teacher

The findings also show that there is a need to incentivize the teacher so that he or she will be motivated in his or her workplace. This means the issue of incentives plays a vital role in empowering and motivating teachers. One participant said,

> *"If teachers manage to get an incentive, they will end up having that zeal to offer their best services.*"

That was supported by a key informant from one teacher's Unions who said;

> *"Money is a motivational factor when it comes to learning. Teaching is about passion, but that passion is supported by better incentives. CA is tightening the teacher schedule, thereby making it an abnormal one, so giving them an incentive makes them feel committed to their work."*

Teachers and schools are being forced to fund workshops that are called at short notice, yet schools are reeling under financial challenges due to poor payment of fees by parents. The welfare of teachers is heavily compromised. There is no proper accommodation for the incapacitated teachers. This compromises the whole training programme and the implementation of CA. This finding is in line with the recommendations passed by the NASH in their letter to the MOPSE, which states that,

> *"Teachers and schools are being forced to fund workshops that are called at short notice, yet schools are reeling under financial challenges due to poor payment of fees by parents. The welfare of teachers is heavily compromised. There is no proper accommodation, and T and S are for the incapacitated teachers. This compromises the whole programme, thereby affecting its implementation."*

One of the teachers union pointed out that,

> "*The union is greatly concerned about teacher incapacitation and the current low level of teacher morale and motivation in schools. The level of teaching and learning in schools is low at most schools and the current atmosphere is not appropriate for such a demanding programme."*

Therefore, this clearly shows that teachers need to be capacitated so that they can work hard in the implementation of CA.

4.5.4 Access to technology and other learning material

The findings also indicated that there is a need for access to technology, which includes access to Wi-Fi and gadgets as well as some learning resources. As indicated above, some learners do not have access to the internet and some do not have either a laptop or mobile smartphones. Therefore, the participants were saying schools must have computers and the internet, which must be accessible to all learners and teachers. This, according to the participants, will improve learning. Moreover, learning resources were said to be of great importance for the kids, so they must be considered a priority. On this finding, about 80 learners pointed out that,

> *"We need computers to do our research. Some of our CA tasks need research, so we do not have anywhere to do these researches because we do not have gadgets or internet access."*

"Schools must have the internet and a computer lab where children should go and do their research. This will play a vital role in improving CA performance."

"The government must request assistance from organisations like UNICEF in the form of text books and other learning resources. These organisations are always ready to assist."

4.5.5 Recruitment of more teachers

The study results indicated that there is a need to recruit more teachers so as to ease the pressure teachers are under. The teachers are said to have a lot of tasks to do, which include teaching and supervising CA learners, and this increases the teacher-learner ratio. Therefore, to ease and reduce that pressure, the participants are saying more teachers must be recruited. Through data from interviews and open-ended questionnaires, the participants were quoted as saying:

"The government must recruit more teachers so that the teacher-to-learner ratio is reduced. The teacher must at least supervise 10 learners, and this will make him/her balance some of the duties he/she needs to undertake." (Participant 13, Learner) felt that,

"If we manage to get more teachers, I think some of our challenges will be addressed. These teachers are busy, so they are being overburdened, so I think it will be a better option to reduce their burden by employing more teachers." Participant 2, MOPSE

"On our assessment, we really discovered that the teacher is being overwhelmed, so the Ministry is planning to recruit more teachers so as to reduce these challenges."

This shows that the recruitment of teachers will play fundamental roles that is reducing the educator-learner ratio therefore making it easy for conducting CA with learners.

4.6 Chapter summary

The data was presented according to the research questions and objectives. It showed how CA is being conducted in schools, the reason for the negative attitudes towards CA by various stakeholders, and the way to address these challenges. It clearly shows that

there is much to be done as far as the implementation of CA is concerned. The following chapter will provide a summary, conclusion and recommendations.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Chapter introduction

This chapter gives a summary of the research, with much emphasis which give a detailed outline of the reflections and findings of this research project and also seeks to draw a conclusion from the findings. The endeavor of this chapter is to present a solution to the main problem and in a way which conclude the study.

5.1 Summary

The study investigated on the use of continuous assessment (CA) in teaching and learning of Physics in Chimanimani district of Manicaland province. The study was qualitative in nature and it used the purposive and simple random technique in selecting the participants. Data was collected using open-ended questionnaires, document research and in-depth interviews. The study analyzed data using the thematic content analysis as well as presenting some data collected from open-ended questionnaires in form of graphs and pie-charts. The objectives of the study were to;

- Examine how teachers carry out CA in teaching Physics.
- Analyze challenges faced towards the implementation of CA in Chimanimani district.
- Identify strategies that can be adopted for an effective implementation of CA. The study findings showed that how CA is being conducted in these schools. Results showed that it consists of 30% of the final mark so the learner is given tasks which he/she needs to go and research about. The Physics learner needs to gather data through the use of various data gathering techniques, then present and analyze the data. It is something which sought to address the cognitive thinking of the learner.

The findings also showed that there are various reasons which are resulting to negative perception towards the implementation of CA. Teachers are not well trained on how to conduct CA and this is bringing more challenges to learners. Lack of incentives for teachers is a hindrance because they are demotivated and this result to lack of interest. CA is said to be done on the wrong time and this piled a lot of work and pressure to teachers. Lack of resources was also a reason why there are negative perception towards CA. Learners and teachers do not have required material to conduct CA.

The findings also showed that there are some ways which are said to be of great importance so as to make sure that CA is implemented well. Teachers need to get incentives as a way of motivating them. There is need for stakeholder consultation which gives every stakeholder to air out his/her own views. Learners and teachers need to have access to technology as well as material for conducting CA. This will help them when conducting their researches. Lastly, there is need for the government to recruit more teachers so as to reduce work load as well as high teacher to learner ratio. The study also provided some recommendations which are provided on section.

5.2 Conclusion

In conclusion, there seems to be a broad consensus for the range and priorities of purposes for continuous assessment, though it is of concern that only 30% included concept development as one of their top three reasons for CA. The following sections explore how the actual practice in schools might not match this range of purposes and practices.

- Availability of teaching and learning materials generally affects the implementation of curriculum. These materials should be made available and they should be of good quality in order for them to produce accurate results during a practical session, because school in Chimanimani lacked sufficient Physics laboratory equipment's, most of them chose an alternate approach over a practical one, which is inappropriate given that the student's future employment as scientists will depend on this expertise.

The study discovered that teachers at ten Chimanimani schools have difficulties when implementing the continuous assessment program. Effective implementation of CAs fail due to; negative attitudes by teachers, too much work load for teachers and learners, lack of understanding by teachers and learners and lack of resources. These

challenges were found to be prevalent at these schools leading to Curriculum Assessment Learner Activity coursework marks lacking credibility, reliability, validity and authenticity. Overall, it appears that no stakeholder is opposed to CA's ideals, goals, and objectives, but they are opposed to how it was developed and how they want it to be implemented.

5.3 Recommendations

Based on the issues identified in the study done at two selected schools in Chimanimani District, recommendations are made to improve the effectiveness of implementing the continuous assessment program in secondary schools.

- Teachers should be fully trained in implementing the Continuous Assessment Learner Activity program so that they may create CA titles, teacher's guides, learner guides, marking guides, and moderation for respective subject areas.
- Secondary schools must have contracts and agreements with internet service providers for enabling learners to research for data needed for doing the CA assignments at low costs.
- There is need to reduce the number of CA assignments; learners might be handed two CA assignments that contribute to coursework, decreasing the amount of work for both teachers and students. Teachers might be financially motivated to maximize their participation in administering the CA program.
- CA questions can be set at the national level to allow for the uniformity and monitoring of learners' marked CA assignments.
- CA assignments for ordinary level form three and form four, should be scheduled evenly over the two years. This relieves stress on teachers and allows them to run the continuous assessment program in secondary schools.

5.4 Chapter summary

This chapter summarized the whole study. It showed that CA is a phenomenon which is good but with its own limitations. If the limitations are addressed then its implementation will bring fruitful results in as far as Zimbabwe’s educational sector is

concerned. The study also provided the recommendations which are key factors in as far as the implementation of CA is concerned.

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APPENDICES

Appendix i: Parental/ Guardian Consent Form for Participation in Research Study

I am, Zembe Piwai N an HBScED student at Bindura University of Science Education l'm conducting a research on the **investigation into the use of continuous assessment (CA) in teaching and learning Physics in Chimanimani district**.

This consent form is designed to provide information about the research study and seek parental permission for the participation of their child in the study. Please read the form carefully and ask any questions you may have before agreeing to allow your child to participate.

If you agree to allow your child to participate please sign on the space provided. As the student will be involved in the following activities:

- Completion of surveys regarding student's experiences with Continuous Assessment (CA) in Physics.
- Participation in the interview to share student's thoughts and feedback on CA practices.
- All the responses will be highly appreciated, treated with the highest confidentiality and used for academic purposes only.

All information collected during this study will remain confidential and will only be used for educational purposes. No personal identifiers will be included in any reports or publications resulting from this study. Your decision to allow your child to participate in this study is completely voluntary. You may withdraw your consent and discontinue your child's participation at any time without penalty.

Parent/Guardian's Signature: _____

Date: _____

APPENDIX ii: Questionnaire guide for learners

The purpose of this interview is to obtain information about the **use of CA in the teaching and learning of Physics**. The research study kindly asked you in giving your response on the stated questions. Your response contributes much to the success of the research to be undertaken.

1. What do you understand about CA?

……

…….....

2. What is the impact of CA on your academic achievement as learners?.....
   .....

.....

3. What is the continuous assessment task you are doing in your school for Physics?.....

.....

4. How is CA conducted?

……

……..

5. What's your perception do you have towards the implementation of CA at your school?.....
   ......

.....

6. What do you think to promote the implementation of CA in Zimbabwe?

……

……

Appendix iii

Open-ended and Close- ended questionnaires filled by Teachers

I am, Zembe Piwai N an HBScED student at Bindura University of Science Education l'm conducting a research on the **investigation into the use of continuous assessment (CA) in teaching and learning Physics in Chimanimani district**. The results of this study will be used for academic purpose only and will be treated with strictly

confidentiality. I'm requesting for your voluntary participation in this study. Please read the information below and ask questions about anything you do not understand, before deciding whether to participate or not.

General Direction

1. No need of writing your name or any other identification.
2. Write your answer briefly for items with provided spaces.
3. Tick where appropriately
4. Respond to all the questions given.

Thank you in advance for your cooperation!

Socio-economic characteristics of the respondents

1. Sex (1) ☐ Male ☐ (2) Female
2. Age (1) ☐ 25-30 ☐ (2) 31-36 ☐ (3) 37-42 ☐ (4) > 42
3. Experience in years i) ☐ 2 ii) ☐ 3-5 iii) 5-8 Yea☐ ☐ iv) Over 8

Questionnaires (Both Open and Closed Ended) to be filled by teachers

1. How do you consistently assess your students during Physics CA?

---

2. What is the most used strategy of continuous assessment in your classroom? (Tick the box which applies) i) Tests ☐ ii) Assignments ☐ ii) Projects iv) Other Specify….☐……

3. Did you manage to receive enough CA training?

a) Yes ☐ b) No ☐

4. What is your overall view on the contribution of continuous assessment on students' academic achievement?

------ ---------- 5. What are the challenges faced by teacher, learners and other stakeholders towards the implementation of CA?

-------- ----------

6. Do you have any laptop or mobile smartphone?

a) Yes ☐ b) No ☐

7. Do you have access to the internet?

a) Yes ☐ b) No ☐

8. How many learners are you supervising on CA? .....

9. What kinds of strategies do you forward to implement CA?

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Appendix IV: Interview guide for key informants

I am, Zembe Piwai N an HBScED student at Bindura University of Science Education l am conducting a research on the **investigation into the use of continuous assessment (CA) in teaching and learning Physics in Chimanimani district**. The results of this study will be used for academic purpose only and will be treated with strictly confidentiality. I'm requesting for your voluntary participation in this study. Please read the information below and ask questions about anything you do not understand, before deciding whether to participate or not. I am, kindly requesting you to read the guideline questions below and prepare to answer the interview questions through Google Meet.

1. What's your take on the introduction of CA in Zimbabwe?
2. What will be the benefits of CA in the education sector?
3. What hinders its implementation of CA?
4. What do you think should be done to address the challenges faced in the implementations of the CA?
5. What strategies are being done to promote the implementation of CA?