

**AN INCLUSIVE PROFESSIONAL DEVELOPMENT PROGRAMME FOR CREATIVE
ARTS AND DESIGN TEACHERS OF JUNIOR HIGH SCHOOLS IN GHANA**

by

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Submitted in accordance with the requirements for the degree of

DOCTOR OF PHILOSOPHY

in the Subject

ART

at the

UNIVERSITY OF SOUTH AFRICA

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(NOVEMBER 2024)

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I further declare that I submitted the thesis to originality checking software and that it falls within the accepted requirements for originality.

I further declare that I have not previously submitted this work, or part of it, for examination at Unisa for another qualification or at any other higher education institution.

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November 2024

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DEDICATION

I dedicate this work to my late father, Bawa Nayi.

ACKNOWLEDGEMENTS

I wish to acknowledge the guidance and scholarly inputs of my supervisor, Prof. Nombeko Penelope Mpako, from the beginning of this study to the end. She has been so instrumental in making sure that I leave no stone unturned in making this study a reality. I also extend my sincere appreciation and acknowledgement to UNISA for granting me a scholarship to enable me to carry out this study successfully. Again, I acknowledge all the research assistants who have done a good job executing the professional development programme. I acknowledge the Sagnarigu Municipal Director of Education for granting me permission to conduct this study with the Creative Arts and Design teachers. I also express gratitude to acknowledge the participants – teachers, headteachers, and seasoned educationists- for giving me their precious time to answer the questionnaires and for making themselves available for the focused-group discussions and workshops to make this study a success.

I thank you all

CURRICULUM VITAE

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ABSTRACT

This study investigated the professional development (PD) needs of Creative Arts and Design (CAD) teachers in the Sagnarigu Municipality, focusing on enhancing their teaching practices and improving student learning outcomes. Through a mixed-methods approach, incorporating surveys, interviews and focus group discussions, the study aimed to design and evaluate a comprehensive PD programme to cater for the unique needs of CAD teachers. The study was implemented in four phases: needs analysis, design, implementation and evaluation. The needs analysis phase revealed significant gaps in teachers' proficiency in CAD content, pedagogy and technology integration. Teachers expressed a strong desire for structured PD opportunities to improve their teaching skills and confidence, emphasising a lack of suitable CAD teachers, insufficient resources and ineffective current training programmes. In the design phase, a meticulous PD programme was crafted, incorporating practical workshops on differentiated instruction, project-based learning and technology use. The implementation phase created high levels of engagement and enthusiasm among teachers by focusing on hands-on activities and collaborative learning. The evaluation phase demonstrated substantial improvements in teachers' self-assessed teaching skills and confidence, with a 55.8% increase in teaching skills and a 64.6% increase in confidence levels. Adopting new teaching practices, such as differentiated instruction, technology use and project-based learning, also saw significant increases. Teachers reported higher student

engagement and a 20% improvement in student performance in CAD subjects. The study concluded that structured PD programmes, integrating practical applications and collaborative learning, can significantly enhance CAD teachers' pedagogical skills, confidence and classroom practices. Recommendations include extending the PD programme duration and providing advanced training on digital tools. This research contributes to the broader field of educational development by offering a model for effective PD programmes tailored to the specific needs of CAD educators.

Keywords: Professional development; Creative Arts and Design; Pedagogy; Teacher Training; Student outcomes

**Isihloko: INKQUBO YOPHUHLISO LOBUNGCALI EBANDAKANYA
WONKE UMNTU YOOTITSHALA BEZIFUNDO ZOBUGCISA
BOKUQWEBE NOKUYILA KWIZIKOLO ZAMABANGA
APHAKATHI EGHANA**

ISISHWANKATHELO

Olu phando beluphanda ngeemfuno zophuhliso lobungcali (iPD) zootitshala bezifundo zoBugcisa bokuQweba nokuYila (iCAD) kuMasipala waseSagnarigu, lugxile ekuphuculeni iindlela zabo zokufundisa kunye neziphumo zokufunda zabafundi. Belujolise ekuyileni nasekuphononongeni inkqubo yePD ebanzi yokuhlangabezana neemfuno ezizodwa zootitshala beCAD, ngokusebenzisa indlela yesikhokelelo sophando exubileyo, ebandakanya uvandlakanyo, udliwanondlebe kunye neengxoxo zamaqela ekugxilwe kuwo. Lufezekiswe kwizigaba ezine: uhlalutyo lweemfuno, uyilo, ukufezekiswa kunye nokuphononongwa. Isigaba sohlalutyo lweemfuno sibonakalise umsantsa omkhulu kwisakhono sootitshala kumxholo weCAD, ukufundisa kunye nokofakwa kwezobuchwepheshe ekufundiseni. Ootitshala bavakalise umnqweno wabo omkhulu wamathuba ePD acwangcisiweyo ukuphucula izakhono zokufundisa nokuzithemba kwabo, begxininisa ukunqongophala kootitshala abafanelekileyo beCAD, izibonelelo ezingonelanga kunye neenkqubo zoqeqesho zangoku ezingasebenziyo. Kwinqanaba loyilo, kuye kwayilwa inkqubo yePD egqibeleleyo, kubandakanywa iindibano zocweyo oluzekelisayo ngendlela yokufundisa eyahlukileyo, ukufunda okusekelwe kwiiprojekthi kunye nokusetyenziswa kwezobuchwepheshe. Isigaba sokufezekiswa sidale amanqanaba aphezulu othathonxaxheba nomdla phakathi kootitshala ngokugxininisa kwimisebenzi eyenziwa ngezandla nokufunda kwentsebenziswano. Isigaba sokuphononongwa sibonise ukuphucuka okumandla kwizakhono zootitshala nokuzithemba abazivavanye ngokwabo, izakhono zokufundisa zinyuke ngomyinge wama 55.8% aze wona amanqanaba okuzithemba anyuka ngomyinge wama 64.6%. Kubekho ukwenyuka nasekwamkeleni iindlela ezintsha zokufundisa, ezifana neendlela zokufundisa ezahlukileyo, ukusetyenziswa kwezobuchwepheshe kunye nokufunda

okusekelwe kwiiprojekthi. Ootitshala banikeze ingxelo yokuzibandakanya kwabafundi ekufundeni okuphezulu kunye nomyinge wama20% wokuphucuka kwendlela abaqhuba ngayo abafundi kwizifundo zeCAD. Olu phando lugqibe kwelokuba iinkqubo zePD ezicwangcisiweyo, ezidibanisa imisebenzi ezekelisayo/yezandla kunye nokufunda ngentsebenziswano, zinokuphucula ngokubonakalayo izakhono zokufundisa zootitshala beCAD, ukuzithemba kunye neenkqubo zasegumbini lokufundela. Izindululo zibandakanya ukwandisa ixesha lenkqubo yePD kunye nokubonelela ngoqeqesho oluqatha lokusebenzisa izixhobo zedijithali. Olu phando lunegalelo kwinkalo ebanzi yophuhliso lwemfundo ngokubonelela ngomfuziselo weenkqubo zePD ezisebenzayo ezilungiselelwe iimfuno ezizodwa zootitshala beCAD.

Amagama angundoqo: Imifuziselo yophuhliso loBungcali; uBugcisa bokuQweba nokuYila; Indlela yokufundisa; Uqeqesho looTitshala; Iziphumo zaBafundi,

**Thoho: MBEKANYAMUSHUMO YO KATELAHO MVELEDZISO YA
PHROFESHENI U ITELA U SIKA NA U NYOLO VHAGUDISI VHA
ZWIKOLO ZWA NTHA ZWA GHANA**

MANWELEDZO

Ngudo iyi yo tōdisisa thodea dza mveledziso ya phrofeshinala (PD) dza vhagudisi vha Vhutsila ha Vhusiki na Nyolo (CAD) kha Masipala wa Sagnarigu, yo sedza kha u khwinisa maitele avho a u funza na u khwinisa mvelelo dza u guda ha matshudeni. U yan ga ha ngona dzo tanganaho, hu tshi katelwa na tsenguluso, mbudzisavhathu na nyambedzano dza zwigwada zwo livhiswaho, ngudo yo vha yo sedza kha u sika na u tōla mbekanyamushumo ya PD yo tanganelaho u itela u thogomela thodea dzo khetheaho dza vhagudisi vha CAD. Ngudo yo thomiwa nga zwipiḡa zwiḡa: tsenguluso ya thodea, u ḡivhadza, u thomiwa na u tōla. Luṡa lwa tsenguluso ya thodea lwo bvisela khagala zwikhala zwiḡulwane kha vhukoni ha vhagudisi kha zwi re ngomu ha CAD, phedagogi na u tanganyiswa ha thekhinolodzhi. Vhagudisi vho sumbedzisa lutamo lwo khwaṡhaho lwa zwikhala zwa PD zwo dzudzanywaho u itela u khwinisa vhukoni havho ha u funza na fulufhelo, vha tshi ombedzela u shaya vhagudisi vho teaho vha CAD, zwishumiswa zwi songo eḡanaho na mbekanyamushumo dza vhugudisi dza zwino dzi sa shumihho. Kha luṡa lwa u ḡivhadza, ho itwa mbekanyamushumo ya PD nga vhuronwane, yo katelaho miṡangano ya mushumo nga ha ndayo dzo fhambanaho, u guda ho tiwaho kha thandela na u shumisa thekhinolodzhi. Luṡa lwa u thomiwa lwo sika maimo a nthā a u dzhenelela na u fhisea vhukati ha vhagudisi nga u sedza kha mishumo ya zwaḡa na u guda nga u shumisana. Luṡa lwa u tōla lwo sumbedzisa mvelaphanda khulwane kha zwikili zwa u funza zwo ḡitoliwaho nga vhagudisi na fulufhelo, nga nyengedzeo ya 55.8% kha zwikili zwa u funza na nyengedzeo ya 64.6% kha zwikalo zwa fulufhelo. U tanganedza maitele maswa a u funza, sa u funza ho fhambanaho, u shumisa thekhinolodzhi na u guda ho tiwaho kha thandela, na zwone zwo vhona nyengedzeo khulwane. Vhagudisi vho vhiga u dzhenelela ha matshudeni ha nthesa na khwiniso ya 20%

kha kushumele kwa matshudeni kha thero dza CAD. Ngudo yo pendela nga la uri mbekanyamushumo dza PD dzo dzudzanywaho, dzi tanganyisaho tshumiso dza u shuma na u guda nga u shumisana, dzi nga khwinisa vhukuma vhukoni ha u funza ha vhagudisi vha CAD, fulufhelo na maitele a lufhera lwa klasini. Themendelo dzi katela u engedza tshifhinga tsha mbekanyamushumo ya PD na u netshedza vhugudisi ha nthesa nga ha zwishumiswa zwa didzhithala. Thodisiso iyi i shela mulenzhe kha sia lo tadvhuwaho la mveledziso ya pfunzo nga u netshedza modele wa mbekanyamushumo dza PD dzi shumaho dzo tanganelanaho na thodea dzo khetheaho dza vhagudisi vha CAD.

Maipfi a ndeme: Modele dza mveledziso ya phrofeshinala; Vhutsila ha Vhusiki na Nyolo; Phedagogi; Vhugudisi ha Vhadededzi; Mvelelo dza matshudeni.

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CHAPTER ONE: INTRODUCTION AND CONTEXTUAL BACKGROUND

Creative Arts and Design (CAD) was introduced under the Common Core Programme (CCP) for junior high schools in Ghana to educate Ghanaian children holistically. The subject offers great prospects for students to engage in self-exploration, self-expression, developing mental focus, artfully using their hands to come up with something new, and managing and reducing stress to attain personal fulfilment and gratification (National Council for Curriculum & Assessment (2020). The subject constitutes four major disciplines, namely (i) Design, (ii) Visual Art, (iii) Music, (iv) Dance and Drama. CAD disciplines become integrated and complement one another. Notably, the Creative Arts and Design curriculum is rich in practice. It requires in-service specialist art teachers to handle it effectively and practically so that students can benefit and become creative, innovative, and problem solvers.

In Ghana, however, the in-service teachers who had begun handling the subject are largely regarded as generalist teachers with little knowledge about arts education. This is because, in the past, teachers for basic schools were trained in Colleges of Education, and these teachers are largely generalist teachers. They were trained to teach many subjects simultaneously, especially the core subjects (English, Mathematics, Science and Social Studies) in the old curriculum (Opoku-Asare, Tachie-Menson, & Ampeh 2015). Aside from these core subjects, the number of teachers who are specialists in elective subjects such as Creative Arts is negligible in basic schools (Boafo-Agyemang 2010; Opoku-Asare et al. 2015). Now that Creative Arts is a core subject under the new CCP, generalist teachers are forced to teach it. The generalist teachers' inability to teach the subject presents a knowledge gap in art content and pedagogy regarding the teaching and learning of the creative arts. For this reason, the study intends to design a Continuing Professional Development programme for in-service Creative Arts and Design teachers to equip them with requisite arts content and pedagogy to teach the subject efficiently and effectively.

The study is set within Action Science Theory, a kind of action research, as described by Victor Friedman (2008), originating from Argyris, Putnam and Smith (1985). Action Science is an approach to action research that integrates practical problem-solving with theory-building and change (Friedman 2008). Adapted from Argyris, Putnam and Smith (1985), Friedman (2008) describes four distinguishing features of Action Science first, as creating communities of enquiry within a community of practice (Wenger 1998), which in the case of this study will be the teaching and learning practice. Secondly, building of theories in practice. Thirdly, interpretation must be combined with rigorous testing of emerging knowledge. Fourthly, creating alternatives to the status quo and informing change, considering values freely chosen by social actors. In the case of this research, actors were participating teachers in collaboration with the researcher. Thus, this study's model seeks to achieve these four features towards recommending grounded and effective problem-solving solutions to empower in-service teachers. On the other hand, the literature review presents a discursive analysis of various teaching and learning approaches for improving the professional development of Creative Arts and Design in-service educators in the participating junior high schools. The study is set within a pragmatist research paradigm, employing both quantitative and qualitative methods.

1.1 CHAPTERS' OUTLINE

Chapter One: Introduction and Contextual Background

The purpose of this chapter was to establish the context and rationale for the study. It provided an overview of Creative Arts and Design (CAD) education in Ghana, highlighting its role in fostering creativity and critical thinking. The chapter also outlined the key challenges facing CAD education, such as the lack of qualified teachers and inadequate resources. The objectives, research questions, and significance of the study were clearly stated, offering a roadmap for the research.

Chapter Two: Literature Review and Theoretical Framework

This chapter aimed to situate the study within existing scholarship and theoretical frameworks. It reviewed key literature on professional development for teachers, the challenges faced in CAD education, and the role of headteachers in supporting teaching practices. The theoretical frameworks—Guskey Model, Desimone Model, and ADDIE Model—were introduced, with their strengths, limitations, and relevance to the study discussed. This chapter provided the foundation for designing and evaluating the PD programme.

Chapter Three: Methodology

The methodology chapter outlined the research design and methods used in the study. A mixed-methods approach was employed, combining quantitative surveys and qualitative focus-group discussions. The phases of the study (needs analysis, design, implementation, and evaluation) were explained, along with the sampling techniques, data collection instruments (questionnaires, observations, interviews), and data analysis procedures. Ethical considerations and steps to ensure validity and reliability were also detailed.

Chapter Four: Data Presentation and Analysis

This chapter presented the findings from the needs analysis, design, implementation, and evaluation phases of the study. Quantitative data were analysed using descriptive statistics, while qualitative data were analysed thematically. The chapter highlighted key insights into CAD teachers' qualifications, the design and delivery of the PD program, and its impact on teaching practices and student outcomes.

Chapter Five: Data Interpretation

The purpose of this chapter was to interpret the findings from the data analysis phase. The chapter drew connections between the study's findings and the reviewed literature, discussing implications for CAD teacher training and professional development. It also explored how the study reinforced theoretical

frameworks, such as the Guskey and Desimone Models, and identified areas for improvement in CAD education.

Chapter Six: Conclusion and Recommendations

The final chapter summarised the study's key findings and drew conclusions based on the research objectives. It offered actionable recommendations for policymakers, educators, and stakeholders to improve CAD education through targeted professional development programs. Additionally, the chapter provided suggestions for future research to address gaps and expand on the findings, emphasising the need for sustained efforts to enhance CAD education in Ghana.

1.2 THE STUDY'S RATIONALE

The main rationale for conducting this study is to equip Ghanaian generalist teachers who are made to teach Creative Arts and Design with the requisite skills and strategies to enable them to teach the subject without difficulty. The study will contribute to the professional growth of arts educators, thus inculcating a feeling of ownership for their development. The main objective of this study was to encourage In-service art teachers to take a vigorous role in improving their professional growth. This was done by motivating them to focus on their day-to-day teaching-space experiences by applying Action Science Theory to discover emergent embedded knowledge and test its effect towards the needed change. In this way, they (the participating teachers) built a knowledge base important for their specific circumstances. Again, the study introduced teachers to a continuous research ingenuity that will enable them to incorporate research into their teaching profession. Besides that, the results of this study may indeed be relevant not only for Ghanaian schools but also for every other nation experiencing a similar situation (Mpako 2005). The execution of the Creative Arts and Design programme and the empowerment of creative arts teachers simultaneously will culminate in the constructive attainment of national educational goals. By implication, the core contents of the common core programme will be addressed simultaneously.

It is crucial to conduct arts education pedagogical research aimed at enhancing children's educational development to enable them to develop creative and 21st-century skills that will enable them to find practical solutions to everyday problems with ease. It is important to research quality education in art and all subjects because quality education is acknowledged in the UNDP's Sustainable Development Goals (SDGs). The SDG4 states that it ensures "inclusive and equitable quality education and promotes lifelong learning opportunities for all" (United Nations, General Assembly, 2015; United Nations 2015). This implies that nations are not only to provide an all-inclusive and equitable education for their citizenry, but they should ensure that the inclusive and equitable education provided is of high quality. Thus, this research addresses emerging concerns and issues regarding improving Creative Arts and Design education in Ghanaian junior to high school educational systems.

1.3 STATEMENT OF THE RESEARCH PROBLEM

The challenges facing Creative Arts and Design (CAD) education in Ghana are multifaceted, encompassing issues related to teacher qualifications, resource availability, and curriculum implementation (Ross & Opoku-Asare 2009). Historically, art education in Ghana has been influenced by colonial perspectives, emphasising vocational skills over creative expression. This legacy has contributed to a persistent undervaluation of art education within the broader educational framework.

Recent studies have identified several challenges in the teaching and learning of Creative Arts in Ghanaian schools, including inadequate teaching and learning materials, insufficient infrastructure, and a lack of specialised training for teachers (Boafo-Agyemang 2010; Opoku-Asare et al. 2015). These issues have led to a reliance on generalist teachers who may lack the necessary skills and enthusiasm to effectively teach Creative Arts, thereby impacting the quality of education delivered to students.

Generalist teachers who do not have practical knowledge of art are made to handle Creative Arts in basic schools in Ghana (Boafo-Agyemang 2010). This was confirmed in a pilot study conducted at five randomly selected schools around Bagabaga College of Education in Sagnarigu Municipality. Headteachers were asked whether their schools had specialist Creative Arts teachers. All, except for one school, indicated that they did not have specialist teachers and that teaching the subject was challenging for the teachers who handled it. This problematic situation is compounded by the fact that the number of pre-service teachers who graduate from the colleges of education with Creative Arts and Design (CAD) qualifications is woefully insignificant. This presupposes that the problem of effective teaching and learning of CAD will linger in Junior High Schools in Ghana for quite a long time.

In addition, the total number of teacher trainees who pursued Visual Arts in Ghana's forty-six (46) colleges of education for the 218/2019 academic year was only 312 students. Meanwhile, according to the Ghana Statistical Service's document on education statistics, the least number of Junior High Schools in a region in the then ten (10) regions was 450 schools. Some regions have over 1000 Junior High Schools per region (Ghana Statistical Service 2018). This implies that the number of Visual Arts trainees currently under training is infinitesimal, and will not cater for the huge number of schools in Ghana. This shortage calls for school-based professional development of in-service Creative Arts and Design teachers because addressing these challenges is crucial for the development of a robust Creative Arts and Design education framework in Ghana.

This study first identified in-service teachers from the chosen schools who teach Creative Arts and Design subjects and established their needs towards setting up a project to deploy an effective intervention process informed by the participants. Thus, the main objective of this research was to design a continuing and inclusive Professional Development programme for in-service Creative Arts and Design

teachers to equip them with basic arts content and how to teach these subjects efficiently and effectively. The secondary objective was to make this research a foundation for further education and training towards new, grounded, and valuable epistemic discovery.

1.4 RESEARCH OBJECTIVES AND QUESTIONS

The study's objectives were focused on addressing the professional development needs of Creative Arts and Design (CAD) teachers. Thus, the objectives of the study were to:

- Assess the qualifications, level of preparedness and perceptions of Creative Arts and Design (CAD) teachers in Junior High Schools within the Sagnarigu Municipality.
- Design a targeted professional development (PD) programme for CAD teachers based on their needs and gaps in art education.
- Implement the designed PD programme aimed at enhancing the teaching and learning of Creative Arts and Design.
- To evaluate the effectiveness of the designed and implemented professional development program on teaching and learning creative arts and design in junior high schools.

The study aimed to answer the following research questions:

- What are the qualifications, level of preparedness and perceptions of CAD teachers regarding their ability to teach Creative Arts and Design in Junior High Schools in the Sagnarigu Municipality?
- How should a professional development program be designed to meet the specific needs of CAD teachers with limited or no training in art education?
- How can the designed professional development programme be practically implemented to enhance the teaching and learning of Creative Arts and Design?

- How effective would the designed and implemented professional development programme be for teaching and learning creative arts and design in junior high schools?

The hypothesis guiding this study is that the professional development (PD) programme for Creative Arts and Design (CAD) teachers in Junior High Schools will lead to statistically significant improvements in teachers' instructional practices, confidence, and student engagement and performance in CAD subjects.

1.5 THE SIGNIFICANCE OF THE STUDY

The significance of this study lies in its potential to address critical gaps in Creative Arts and Design (CAD) education in Ghana. By focusing on the professional development (PD) of CAD teachers, the study aims to bridge the gap between current teacher qualifications and the competencies required to effectively teach CAD. This effort is particularly crucial given the shortage of qualified CAD teachers. The study also seeks to boost teacher confidence through comprehensive PD workshops, equipping them with the necessary skills and knowledge to empower their teaching practices, which can lead to improved student outcomes. Furthermore, the study draws attention to the importance of experiential learning and practical application, making teaching and learning more interactive and engaging for students and contributing to their holistic development, including creativity, critical thinking, and problem-solving skills (Vygotsky 1978).

In addition to improving teaching and learning, the study has significant implications for policy and administrative decisions. By providing valuable insights into the challenges and needs of CAD teachers, the findings can inform evidence-based policymaking, ensuring policies are pragmatic and tailored to actual needs. The study highlights the disconnect between policy decisions and ground realities, emphasising the necessity for policies that consider practical

challenges in schools. Moreover, the study contributes to the body of knowledge by integrating various Professional Development (PD) frameworks and models, offering a comprehensive theoretical basis for future research, and providing empirical data that enhances the understanding of PD programme implementation in the Ghanaian context.

Practically, the study helped schools and educational authorities prioritise resource allocation by identifying specific resources needed for effective CAD instruction, such as materials, tools, and technological resources. It also proposes a PD framework that can be adapted and implemented in other regions and subjects, potentially having a broader impact on the educational system. The significance of this study extends beyond CAD education in the Sagnarigu Municipality, aiming to make a lasting impact on the education sector in Ghana and potentially in similar contexts. By addressing teacher qualifications, improving student learning outcomes, informing policy decisions, contributing to academic knowledge, and providing practical solutions, this study seeks to enhance the quality and effectiveness of education.

1.6 DELIMITATION OF THE STUDY

Delimitations of the study refer to the boundaries and limitations set by the researcher to narrow the scope of the investigation (Theofanidis and Fountouki 2018). These boundaries were necessary to maintain focus and ensure that the research was manageable and feasible within the available resources and time frame. This study on the inclusive professional development of Creative Arts and Design (CAD) teachers in Ghana has several key delimitations. Firstly, the study is geographically delimited to the Sagnarigu Municipality in the Northern Region of Ghana. This specific locale was chosen due to its unique educational challenges and the researcher's familiarity with the area, allowing for more in-depth and contextualised analysis.

In addition, the study is focused on junior high school (JHS) CAD teachers. This delimitation excludes primary and senior high school teachers, whose professional development needs and challenges may differ significantly. The choice of JHS teachers is based on the critical transitional stage that junior high school represents in the Ghanaian education system, where foundational skills in CAD can significantly impact students' future academic and career choices.

The study's time frame is delimited to a specific academic year during which the data collection, implementation of PD workshops, and subsequent evaluations were conducted. Furthermore, the study is delimited to specific data collection methods, including questionnaires, focus-group discussions, workshops and observations. While these methods provide a comprehensive view of the PD programme's effectiveness, they inherently limit the study to the perspectives and experiences captured through these instruments. Other data collection methods, such as experimental designs or longitudinal studies, were not employed. The study also delimits its theoretical framework to models and theories relevant to professional development and CAD education, including Guskey's model of professional development, Desimone's model of teacher professional practice, and the ADDIE model of instructional development. ADDIE is an acronym derived from Analysis, Design, Development, Implementation, and Evaluation and was first developed by Florida State University for the military in 1975 (Kurt 2018). This study's theoretical frameworks guided the analysis and interpretation of findings but may exclude other relevant theories and models from the fields of general education, psychology, or organisational behaviour.

Lastly, the study's practical scope is delimited to the design, implementation, and evaluation of a PD programme for CAD teachers. It does not extend to broader systemic issues in the Ghanaian education system, such as policy implementation challenges, infrastructure deficits, or socio-economic factors impacting education. The study maintains a clear and focused examination of the specific issue of CAD

teachers' professional development by setting these boundaries within the defined context.

1.7 LIMITATIONS

Every research study faces certain limitations that can affect the interpretation and generalisability of its findings (Theofanidis and Fountouki 2018). Recognising these limitations is crucial for understanding the scope and context of the results, as well as for guiding future research. This study on the inclusive professional development (PD) for Creative Arts and Design (CAD) teachers in Ghana also encountered several limitations. Firstly, the sample size and selection presented a significant limitation. The study was conducted in the Sagnarigu Municipality and involved a specific group of junior high school (JHS) CAD teachers. While the study's focus on the Sagnarigu Municipality provided an in-depth analysis of Creative Arts and Design (CAD) education within a specific context, there are several reasons why the findings could still be applicable to other regions in Ghana. First, the challenges identified, such as the lack of qualified CAD teachers, insufficient resources, and gaps in professional development, are systemic issues that have been reported across various educational contexts in Ghana. These are not unique to Sagnarigu Municipality but reflect broader trends within the national education system, as supported by studies that highlight the widespread lack of specialised art teachers and resource constraints in Ghanaian schools.

Second, the professional development (PD) model designed and implemented in this study is based on universally applicable principles, such as active learning, teacher collaboration, and contextualised training. These principles address fundamental needs in teacher development and can be adapted to similar settings across the country. Regions facing comparable challenges in CAD education, such as inadequate teacher preparation or limited instructional resources, could benefit from adopting this model with minor contextual adjustments. The study's emphasis on the integration of theoretical frameworks, such as the Guskey Model

and Desimone Model, and practical applications ensures its relevance beyond the local context. The findings provide actionable insights into how professional development programmes can be structured to enhance teaching skills and student outcomes, making them valuable for policymakers and educators across Ghana. Therefore, while the sample was localised, the shared educational challenges and the universal applicability of the proposed solutions suggest that the findings could inform CAD education practices in other regions of the country.

Furthermore, the study relied on self-reported data from teachers and headteachers through questionnaires, interviews, various observational techniques and focus-group discussions. Self-reported data can be subject to biases such as social desirability bias, where respondents may provide answers they believe are expected rather than their true thoughts or experiences. This reliance on self-reported information may have affected the accuracy and objectivity of the data collected, potentially skewing the findings. Additionally, the time frame of the study was another limiting factor. The research was conducted over a specific academic year, focusing on the immediate outcomes of the PD programme. This short duration may not capture the long-term impacts of the PD sessions on teaching practices and student outcomes. Changes in teaching methods and their effects on student learning often require a longer period to become evident, and a more extended study might have provided deeper insights into the sustainability and effectiveness of PD initiatives.

Additionally, resource constraints posed a limitation. The lack of sufficient financial and material resources impacted the scope of the PD workshops and the availability of necessary tools and materials for both the training sessions and subsequent classroom implementation. This limitation mirrors the broader issue of resource scarcity in the educational system, which can hinder the successful application of PD programmes. The study's methodological approach also had its constraints. While the mixed-methods design allowed for a comprehensive analysis, integrating qualitative and quantitative data posed challenges in

ensuring consistency and coherence in the findings. The complexity of managing and analysing different types of data may have introduced interpretive challenges, potentially affecting the robustness of the conclusions drawn.

Lastly, the study was influenced by the broader educational and policy context in Ghana. The effectiveness of PD programmes is often intertwined with systemic issues such as policy implementation, administrative support, and socio-economic factors. The study's focus on a specific PD intervention within a localised context means that these broader systemic influences were not fully addressed, which could limit the applicability of the findings to other settings with different policy and administrative environments.

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not be broadly applicable to other regions in Ghana or to CAD teachers at different educational levels, such as primary or senior high school. The relatively small and localised sample limits the ability to generalise the results to a wider population.

Secondly, the study relied on self-reported data from teachers and headteachers through questionnaires, interviews, various observational techniques and focus-group discussions. Self-reported data can be subject to biases such as social desirability bias, where respondents may provide answers they believe are expected rather than their true thoughts or experiences. This reliance on self-reported information may have affected the accuracy and objectivity of the data collected, potentially skewing the findings. Additionally, the time frame of the study was another limiting factor. The research was conducted over a specific academic year, focusing on the immediate outcomes of the PD programme. This short duration may not capture the long-term impacts of the PD sessions on teaching practices and student outcomes. Changes in teaching methods and their effects on student learning often require a longer period to become evident, and a more extended study might have provided deeper insights into the sustainability and effectiveness of PD initiatives.

Additionally, resource constraints posed a limitation. The lack of sufficient financial and material resources impacted the scope of the PD workshops and the availability of necessary tools and materials for both the training sessions and subsequent classroom implementation. This limitation mirrors the broader issue of resource scarcity in the educational system, which can hinder the successful application of PD programmes. The study's methodological approach also had its constraints. While the mixed-methods design allowed for a comprehensive analysis, integrating qualitative and quantitative data posed challenges in ensuring consistency and coherence in the findings. The complexity of managing and analysing different types of data may have introduced interpretive challenges, potentially affecting the robustness of the conclusions drawn.

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CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

This chapter presents the literature review, contextualised through scholarly research on the current situation regarding arts education, starting with the role of The United Nations Educational, Scientific and Cultural Organisation (UNESCO) in promoting arts education globally, followed by a review of Studies on Professional Development and focused on Arts Education, and on Ghana's educational system. It discusses the historical overview of Ghanaian arts education, the arts education curriculum, the teaching of creative arts and its associated challenges. A focus on the current art education in Basic Schools in Ghana and the new Creative Arts and Design curriculum is contextualised to present this study's objectives and argument accurately. Furthermore, the study delves into the pre-and in-service training of Creative Arts and Design teachers in Ghana to demonstrate the issues this study addresses. Empirical evidence of the benefits of arts education is highlighted in general to argue for this study's relevance. The chapter concludes by highlighting the three theoretical concepts underpinning this study as introduced in chapter one.

2.1 UNESCO'S POSITION ON THE NEED FOR ARTS EDUCATION

The United Nations Educational, Scientific and Cultural Organisation (UNESCO) recognises the important role arts education can play in promoting creativity, cultural diversity, and social cohesion. According to UNESCO (2006), quality arts education can provide students with the skills and knowledge they need to engage with their cultural heritage, express themselves creatively, and develop an appreciation for different forms of artistic expression. It can also foster a sense of belonging and identity, encourage critical thinking and problem-solving, and promote social and emotional well-being. UNESCO has also highlighted the importance of integrating arts education into the curriculum at all levels of education, from primary to tertiary education (UNESCO 2013). UNESCO further emphasised the need to provide teachers with the training and support they need to deliver quality arts education to their students (UNESCO 2010). In addition, it

has stressed the importance of ensuring that arts education is inclusive and accessible to all learners, regardless of their socio-economic background or level of ability. This means considering students' different learning needs and styles and providing appropriate accommodations and support (UNESCO 2015). Thus, UNESCO recognises the potential of arts education in the promotion of creativity, cultural diversity, and social cohesion and advocates for its integration into the curriculum at all levels of education, as well as for the training and support of teachers and the provision of inclusive and accessible arts education to all learners.

UNESCO has been a significant contributor to arts education globally, advocating for the importance of arts education and promoting policies and programmes to support it. UNESCO recognises that arts education plays a vital role in fostering creativity, critical thinking, social and emotional development, cultural diversity, and intercultural dialogue. UNESCO's contributions to arts education include the publication of various reports, guidelines, and recommendations. For example, the 2006 "Road Map for Arts Education" provided a comprehensive framework for promoting quality arts education globally, reiterating the need to integrate arts education into the curriculum and providing teachers with the training and support they need to deliver it effectively (UNESCO 2006). In 2015, UNESCO launched the "World Alliance for Arts Education," which aimed to promote the role of arts education in achieving sustainable development goals and to provide a platform for collaboration and knowledge-sharing among arts educators, policymakers, and researchers (UNESCO 2015). Furthermore, UNESCO has also supported various initiatives to promote access to arts education for marginalised groups, such as the "Mobile Learning Week" programme, which seeks to use mobile technologies to expand access to arts education in low-resource settings (UNESCO 2020). Therefore, UNESCO's contributions to arts education have been significant, and their work has helped to promote the importance of arts education globally and increase access to quality arts education for all learners.

UNESCO has a long history of actively promoting art education globally through various initiatives. These efforts encompass policy development, curriculum design, teacher training, research, and international collaborations. Below are some key examples of UNESCO's initiatives and the contexts in which they have been implemented:

2.1.1 Policy Development and Curriculum Design

Road Map for Arts Education (2006): Adopted during the World Conference on Arts Education in Lisbon, Portugal, this document provides guidelines for arts education policies and practices. It focuses on the importance of arts education in promoting creativity, cultural awareness, and social cohesion.

Seoul Agenda: Goals for the Development of Arts Education (2010): During the Second World Conference on Arts Education in Seoul, South Korea, UNESCO launched this agenda to promote the strategic development of arts education globally. This agenda highlights goals such as ensuring access to arts education and improving its quality.

2.1.2 Teacher Training and Capacity Building

Training Workshops in Sub-Saharan Africa: UNESCO has conducted numerous training workshops aimed at enhancing the skills of art teachers in various countries across Sub-Saharan Africa. For instance, in Kenya and Nigeria, these workshops have focused on integrating local cultural heritage and contemporary art practices into the curriculum.

Asia-Pacific Regional Initiatives: In countries like Thailand and the Philippines, UNESCO has supported teacher training programmes that incorporate traditional art forms and modern pedagogical approaches, ensuring that educators are well-equipped to deliver comprehensive arts education.

2.1.3 Research and Publications

World Conference on Arts Education Reports: The reports from the 2006 and 2010 World Conferences on Arts Education provide extensive research on the state of arts education globally. These documents are valuable resources for policymakers and educators seeking to implement effective arts education strategies.

Arts Education Monitoring Reports: UNESCO has published various monitoring reports that assess the implementation and impact of arts education initiatives in different regions. These reports provide evidence-based recommendations for improving arts education practices.

2.1.4 Programmes and Initiatives

Arts in Education Observatory in the Asia-Pacific (AEO-AP): This initiative, based in Seoul, South Korea, serves as a regional hub for collecting and disseminating information on arts education. It supports research, policy advocacy, and the sharing of best practices among member countries.

UNESCO-Aschberg Programme for Artists and Cultural Professionals: This programme provides fellowships and grants to artists and cultural professionals, promoting mobility and exchange. It supports creative projects and educational opportunities that enhance the role of the arts in society.

2.1.5 International Collaborations

Collaborative Projects with the European Union: UNESCO has partnered with the European Union on various projects to promote cultural diversity and arts education. These collaborations have included curriculum development initiatives and teacher exchange programmes in Europe and beyond.

Partnerships with Non-Governmental Organisations: UNESCO collaborates with numerous NGOs, such as the International Society for Education through Art

(InSEA), to promote arts education globally. These partnerships facilitate the exchange of knowledge and resources, enhancing the effectiveness of arts education initiatives.

2.1.6 International Conferences and Events

World Conferences on Arts Education (2006, 2010): These conferences brought together policymakers, educators, artists, and researchers worldwide to discuss and promote arts education. They resulted in key documents such as the Road Map for Arts Education and the Seoul Agenda.

Regional Arts Education Forums: UNESCO organises regional forums and conferences that address the specific needs and challenges of arts education in different parts of the world. These events provide platforms for sharing best practices and developing region-specific strategies. UNESCO, therefore, actively promotes art education through policy development, curriculum development, teacher training, research, programmes and initiatives, international collaborations, and international conferences and events.

2.2 EVOLUTION OF TEACHER PROFESSIONAL DEVELOPMENT

The history of teacher professional development can be traced back to the early 20th century when formal teacher training programmes were established (Darling-Hammond 2017). These programmes focused on preparing teachers to teach students subject-specific knowledge and skills. In the mid-20th century, with the rise of behavioural psychology, professional development programmes focused on changing teacher behaviour in the classroom through techniques such as behaviour modification and reinforcement (Garet et al. 2001). In the latter part of the 20th century, teacher professional development shifted towards a focus on teacher reflection and collaboration, focusing on the development of teacher leadership (Darling-Hammond 2017). This shift was influenced by scholars such as Donald Schön, who emphasised the importance of reflection and problem-solving in professional learning (Schön 1987).

More recently, the focus of teacher professional development has expanded to include developing teachers' technological skills and using data to inform instructional decision-making (Darling-Hammond 2017; Darling-Hammond et al. 2017). Additionally, there has been a growing emphasis on the importance of ongoing, job-embedded professional development that is responsive to teachers' individual needs and contexts (Semon et al. 2020; Guskey 2002). Generally, the history of teacher professional development has been marked by an evolution in focus from subject-specific knowledge and behaviour modification to teacher reflection and collaboration and to technological skills and data-driven decision-making. The current trends towards ongoing, job-embedded professional development responsive to individual teacher needs will likely continue to shape teacher professional development's future (Poekert 2016; Semon et al. 2020; Guskey 2002).

Schumann et al. (2013) conducted a study on the progression of teacher professional development over time, specifically focusing on educational trends to improve and modernise teaching skills. They underscored the necessity of shifting away from conventional Teaching and Learning Centres (TLCs) of the 1960s. They highlighted the complexities associated with implementing changes and programmes over an extended period, particularly when educators are highly motivated to enhance instruction and student performance. The central point is that educators, driven by the desire to elevate their teaching and student outcomes, are encouraged to strategise changes and programme implementations over an extended duration meticulously (Schumann et al. 2013).

Educational institutions frequently utilise Professional Learning Communities (PLCs) as a guiding framework for professional development planning (Vescio, Ross & Adams 2008). PLCs are characterised as collaborative assemblies of individuals engaged in collective inquiry, sharing best teaching practices, and exploring effective learning approaches to acquire fresh skills and experiences

(Vescio et al. 2008). These collaborative endeavours are designed to elucidate students' learning needs through engaging, hands-on activities, promoting effective face-to-face instruction (DuFour, DuFour, Eaker and Many 2006). LaTurner and Lewis (2013) delineated a data-driven approach to assessing the effectiveness of professional development endeavours aimed at principals, art educators, and fine art coordinators. Bengtson, Zepeda and Parylo (2013) emphasised professional development practices to disseminate knowledge and enhance skills, affirming pinpointing specific teacher requirements through mentoring, training sessions, and practical demonstrations. Administrators and art educators employed data to gauge the needs of art educators, nurturing their professional growth and facilitating practice and follow-up (Godbold 2013). The Syracuse City School District (SCSD) is committed to delivering year-long professional development programmes tailored for administrators and art educators, characterised by their engaging, instructive, and job-embedded nature, focusing on enhancing the art curriculum and elevating student achievement. Ebert-May et al. (2011) reported that in-service programmes are designed to enhance participants' comprehension of subject matter, instructional methodologies, the development of inquiry-based materials, and their confidence in applying active-learning pedagogies during and after professional development workshops.

In their case study, Polly and Hannafin (2011) investigated 24 elementary school teachers who partook in a year-long professional development initiative aimed at aiding teachers in implementing specific instructional practices and fostering receptiveness to incorporating workshop pedagogy into their teaching to augment student learning. The results indicated that ongoing adult learner-centred professional development positively impacted classroom practice. Before sending administrators and teachers to conferences and workshops and committing to high-quality professional development opportunities, Jaruszewicz and White (2009) looked at the correlations between teacher retention and a lack of support. The feedback from art educators who attended local and national

meetings revealed that they felt valued, supported, and committed to the programme. The case study findings re-echoed the significance of art educators' participation in art professional development workshops, as it is essential for their professional growth as instructional leaders and for promoting student achievement. Winberg and Pallit (2016) assert that principal professional portfolios, also known as e-portfolios, are efficacious for professional growth and assessments. These tools aid in establishing objectives and goals for achievement, promoting self-reflection, cultivating professional development, and stimulating engaging discussions with other leaders within the district, including the superintendents and principals.

Grissom and Harrington (2010) assert that the primary objective of school districts' investment in principal professional development programmes was to enhance the efficacy of administrative leadership, school performance, teacher contentment, retention rates, and professional obligations, all of which were found to have a direct influence on student academic attainment. In the context of organising professional learning communities (PLCs) and designing professional development programmes focused on school social pedagogy, Jonusaite (2009) outlined several decision-making methods. These styles encompass choice, accept-reject, evaluation, and creation.

It is commendable when individuals responsible for supervising, evaluating, and communicating with art teachers possess a comprehensive understanding of many content disciplines, particularly those related to the arts. This knowledge enables them to boost student learning and growth effectively. The study conducted by Agi'c (2012) showcased the advantageous outcomes of engaging in professional development within management education. Specifically, the research highlighted principals' proficiency in planning, decision-making, organisation, and prioritisation. These competencies proved vital in effectively managing teachers and cultivating an environment conducive to enhancing staff leadership. The art educators were evaluated by principals who engaged in art

professional development, utilising evaluation criteria at mid-year and end-of-year stages. These criteria encompassed art concepts and practices. The case study allowed art educators to examine evaluation protocols, art historical knowledge, and the proficiency of art teachers. Principals created an improvement plan after observing and examining art teaching techniques for design professionals in education, who transformed art teachers' approach to curriculum design, instructional strategies, and teaching methods.

Agi'c (2012) conducted a quantitative research study to examine the impact of professional development training on the management abilities of principals, instructors, and advisers on education and employee development. A survey instrument including structured, multiple choice and open-ended questions was administered to 147 educators, including subject advisers and principals. The participants were randomly recruited from individuals affiliated with seven distinct educational institutions. The survey instrument was completed utilising a Likert scale comprising three to four degrees of satisfaction. To ascertain the significance of the findings and ensure equitable distribution of opinions among the groups, statistical analyses such as t-tests and F-tests were employed. According to the survey findings, administrators were continuously trained in several domains, including statistical data analysis, human resource management, legislative policy, school reform implementation, and staff motivation.

To foster the endorsement of art educators towards the comprehensive strategy to enhance student achievement through artistic endeavours, administrators and art educators were prompted to introspect the school's Annual Yearly Progress (AYP) objectives and student performance targets during art professional development training. The research utilised data obtained through observational field notes, pre- and post-open-ended surveys, and focus group inquiries to involve participants in applying reflective practices (Schunk 2012) and art knowledge standards to develop in-service programmes for art educators. Lopez-

Pastor, Monjas, and Manrique (2011) assert that reflective teaching and practice constitute an ongoing endeavour encompassing the application of acquired knowledge and the contemplation of personal experiences, auditory stimuli, and verbal interactions (Schunk 2012). This process aims to foster the development of proficient pedagogical approaches within the classroom setting. Lopez-Pastor et al. (2011) suggested that establishing a connection between teaching education and practices can positively impact students' academic performance and motivation.

The Common Core State Requirements (CCSR) and the curricular requirements for art serve as valuable resources for principals, art educators, and fine arts coordinators in designing professional development training initiatives for art instructors. These educational programmes facilitate the establishment of links between artistic knowledge and student learning. Roeser, Skinner, Beers, and Jennings (2012) have identified various factors that contribute to the success of educators and professional development specialists in improving the 21st-century classroom and facilitating ongoing professional development. These factors include a strong grasp of content knowledge, an understanding of effective instructional strategies for teaching disciplinary content, the ability to differentiate instruction to meet the diverse needs of students, and the possession of developmental skills that align with age-appropriate content.

According to Dogan, Cakiroglu, Bilican, and Cavus (2013), the utilisation of content-based tasks, discussion, and participant reflection during professional development sessions resulted in enhanced comprehension of the curriculum among participants. Additionally, these activities provided continuous support, feedback on teaching practices, and opportunities for self-reflection and improvement. The utilisation of the National Art Education Association's (2014) standards and the suggestions for NCLB-model professional growth retraining for art educators by ASCD (2015) have facilitated the application of art knowledge, skills, and training by administrators and instructors in cultivating artistic abilities.

Sotiropoulou-Zormpala (2012) presented a set of teaching methodologies and practices for arts education as follows:

- Teaching the arts in a discipline-specific or content-oriented manner.
- The utilisation of artistic methods in education encompasses the development of abilities and adherence to the prescribed curriculum.
- The construction of a comprehensive professional development programme for directors and instructors of art should incorporate the principles of aesthetic instruction and the integration of other courses.

Principals possess the capacity to effectuate organisational transformation by providing specialised guidance, technical assistance, and avenues for growth and development. Administrators assume responsibility for the advancement of a school and the professional development of its employees, with a specific emphasis on enhancing the competencies of their team members. The capacity of team members to engage in self-reflection while collecting data for the purpose of enhancing their performance through evaluation methodologies is crucial for professional development.

Darling-Hammond, Hyler, and Gardner (2017) defined professional development for educators to participate in as thorough, job-embedded opportunities pertinent to the context of their content, strategies, team, and students. Creating professional development programmes structured as a continuous process aims to enhance the curriculum, instruction, teacher practice, and assessment. The communication and collaboration between teachers who participated in professional development activities increased their knowledge of what lessons students should learn (Vangrieken, Meredith, Packer and Kyndt 2017). The construction of professional development that allowed staff to achieve school-wide goals, enhance their practices, and maintain accountability for teaching and

learning was made possible by data analysis, according to Mandinach and Gummer (2016).

According to Abbasi, Murtaza, and Riaz (2011), administrators are facilitators for encouraging school growth, expert feedback, and promoting school change. These factors impact the institution, teacher improvement, and professional interest development. According to Thoonen et al. (2011), incorporating adult learning theories into professional development activities can influence teacher learning and practices while fostering student growth. According to Spillane, Healey, and Parise (2009), opportunities for professional learning are frequently referred to as professional. Educators and administrators can participate in on-the-ground development using such methods as activities designed to enhance student learning and teaching methods (Schunk 2012). Sugarman (2011) defines professional development methods as extensive pre-service training and ongoing improvement intended to enhance teachers' subject-matter expertise and practice. Helterbran (2010) found that Professional Learning Communities (PLCs), where principals or teacher leaders demand commitment to change and growth as a person or educator, expand and build a knowledge base through professional development as the foundation of raising teacher confidence while enhancing their knowledge, skills, advancement, and practices, strengthening student achievement.

Gill (2012) argued that spending money on teacher and leader programmes like professional development, mentoring, and high-quality in-service training could reduce staff turnover, close the achievement gap, and ease district financial woes. Principals in schools with a shortage of teachers believed that hiring new teachers and investing in their professional growth would improve the calibre of instruction, which is relevant to students' understanding of the value of instruction (Donaldson 2011). According to Joyce and Calhoun (2011), enhancing educational outcomes and achievements for all students can be achieved through the incorporation of various components, such as the integration of theories, inquiry, assistance to

educators, leaders, instructional trainers, coordinators, mentoring and guidance activities, and the improvement of curriculum.

The debate over whether teacher quality is the most important school variable influencing student achievement and improving the quality of schools has persisted for years in the literature on education. The debate over whether teacher quality is the most important school variable influencing student achievement and improving the quality of school has persisted for years in the literature on education (Hattie 2015; Darling-Hammond 2019; Kang, Cha, and Ha 2013; Macia & Garcia 2016). While researchers like Hattie (2015) and Darling-Hammond (2019) argue that teacher effectiveness is the single most significant in-school factor affecting student achievement, others such as Dietrichson, Bøg, Filges, and Jørgensen (2017) contend that socioeconomic factors, class size, and school resources collectively have a more substantial impact than teacher quality alone. Additionally, Kraft, Blazar, and Hogan (2018) suggest that while teacher quality matters significantly, its impact can be enhanced or diminished by school organisational conditions and leadership support, indicating that teacher effectiveness cannot be isolated as the sole determinant of student success. Nonetheless, educational leaders, theorists, and researchers have concentrated on improving teaching quality to increase student learning and achievement. Countries invest millions of dollars annually to increase the level of their teachers' training and credentials by expanding their opportunities for professional development (DeMonte 2013). According to Cochran-Smith et al. (2016), there are higher expectations for teachers' abilities and professionalism because of the educational landscape's rapid change, the need for high pedagogical standards, and the need for high-quality education.

On the other hand, as the knowledge society has intensified new ways of thinking and educational innovations, teachers' expectations of themselves have also increased (Collinson et al. 2009). Undoubtedly, educators must constantly advance their knowledge. Remember that this continuous improvement process

necessitates that they acquire new expertise, experience strong support, and access new opportunities (Collinson et al. 2009). Many policies have been put in place to encourage teachers' colleges and other educational organisations related to teacher training to develop teachers' existing knowledge and practices to improve student outcomes and school quality, to support these conditions (Desimone 2011; Desimone & Garet 2015). As previously mentioned, teacher professional development has attracted much critical attention because it improves students' academic performance (Desimone, 2009). Exploring the various PD dimensions is necessary to better comprehend how people develop professionally (Evans 2011).

On the other hand, it is critical to define professional development (PD), describe how it affects teachers' and students' outcomes, and discuss the contextual factors influencing it before beginning the PD process (Kang et al. 2013). While existing research indicates a rising demand for teacher professional development (Hill 2009), it shows a lack of understanding of what PD is and what effective PD entails. Researchers have not adequately understood the concept of teacher professional development as well as the scope and characteristics thereof (Komba and Mwakabenga 2019). Although the theoretical underpinnings, areas of focus, and contexts of existing studies vary, many of them have been carried out without a clear definition of PD or an understanding of its unique traits and conceptual frameworks (Garet et al. 2001). For example, the teacher PD study by Sales, Traver, and Garca (2011) lacked a definition of what professional development is. Similarly, Bett and Makewa (2018) investigated how to enhance teacher professional development without defining it or its components. Evans (2011) contends, however, that current models of PD's characteristics fall short of conducting a thorough analysis of the concept (Kuijpers et al. 2010). As noted by Clarke and Hollingsworth (2002), to help teachers advance professionally, it is necessary to comprehend the steps involved in this process and the environments that foster it. Considering these circumstances, Korthagen (2017) emphasised that when designing the PD process, attention must be paid to teachers' needs,

priorities, prospects, emotions, motivations, and dreams. As a result, while the multidimensional structure and practical development of PD make application more difficult, they do not make it impossible. Consequently, a thorough framework is required to present a meaningful and comprehensive perspective of PD, which is a key deliverable of the current study.

2.3 COMPONENTS OF EFFECTIVE PROFESSIONAL DEVELOPMENT

Although there is much disagreement regarding the fundamental components of effective continuing professional development (CPD) and its evaluation, CPD is crucial for practitioners to improve their pedagogical content knowledge and skills, ultimately improving student outcomes (Desimone 2009). Regular professional development is a common practice among teachers to stay current with pedagogical changes and their subject area. Knowing what makes a PD effective is essential to evaluating the success or failure of many educational reforms (Desimone 2009). To improve teachers' capacity to deliver rigorous instruction, systemic reform initiatives may find success if they are founded on effective professional development (Hargreaves & Fullan 2015). It is imperative to remember that the PD process affects teachers, including their unique characteristics, instructional abilities, and student learning outcomes. The majority of research on this subject has been based on the various effects of an efficient PD process for student achievement (de Groot-Reuvekamp et al. 2018; Derri et al. 2015.; Girvan et al. 2016; Higgins & Parsons 2009; Prenger et al. 2017). Additionally, many second-generation PD definitions emphasise how closely successful PD is to student outcomes and accomplishments (Desimone 2009; Timperley et al. 2007).

The environment in which the PD is applied is one factor affecting the PD process. In this case, the PD process wholly depends on the PD climate. Schools' institutional structure, culture, and physical and technical characteristics (e.g., duties assigned to teachers by the school administrator, interactions between administrators and teachers, teachers and students, and interactions between

teachers and other teachers) impact teachers' professional development (Desimone 2009). Thus, teachers having a shared vision and a strong working relationship with administrators is essential for successful teacher professional development. Teachers' sense of unity and cooperation also foster a positive work environment that naturally affects their professional development (Hord & Tobia 2015; Lawrence 1987).

The design of the PD process is another crucial factor for successful PD implementation. Despite the literature's emphasis on the importance of teachers and institutional traits, the settings where PD is carried out (materials and technical support) and the information, procedures, approaches, and tools employed are equally important. Postholm (2012) confirmed that teachers must assess the effectiveness of the PD materials they are using to support better teaching. Furthermore, Korthagen (2017) opines that various strategies would be effective for various teachers or communities of practice, as well as for various peer coaching relationships and individual or group coaching relationships (Wenger 1998). According to Macia and Garca (2016), some teachers may use unofficial online communities and networks to engage in shared learning, reflect on their classroom instruction, and receive emotional support. Furthermore, rather than concentrating on activities or materials like textbooks, an effective PD process design should focus on improving teachers' knowledge and practices and students' learning outcomes (Desimone 2009). Effective teacher professional development typically includes several other key components, which have been identified by research and educational experts.

Another important point is that professional development should be aligned with educational goals and standards and focus on improving student learning outcomes (Darling-Hammond et al. 2017). Aligning professional development with educational goals and standards is a research-backed approach with significant promise for improving student learning outcomes. The research conducted by Kennedy (2016) emphasises the importance of this alignment. It

highlights how such a strategic approach benefits educators, learners, and the educational system as a whole. Real-world implementation and practical examples further emphasise the value of aligning professional development with overarching educational objectives.

The study by Gore et al. (2017) demonstrates that professional development achieves maximum impact when it directly aligns with educational goals and standards. A tailored approach ensures that educators acquire knowledge and skills that directly contribute to enhancing student learning experiences. This alignment addresses the concern that generic or unrelated professional development activities might not directly influence classroom practices and student achievement. According to Pharis, Wu, Sullivan, and Moore (2019), institutions prioritise initiatives that directly improve student learning outcomes by aligning professional development with educational goals and standards. The focus shifts from isolated skill development to strategies that align with the broader objectives of the curriculum. McElearney et al. (2019) reported, for example, that if a school district aims to enhance students' critical thinking skills, the professional development initiatives might centre on instructional techniques that promote critical thinking across subjects.

Educational institutions worldwide have embraced the concept of aligning professional development with goals and standards. For instance, when a school system aims to integrate technology effectively into the curriculum, professional development workshops might be designed to train teachers in utilising technology to enhance learning experiences (Koehler 2013; Mishra & Koehler 2006; Trust et al. 2016; Tondeur et al. 2017). This targeted approach ensures that teachers acquire skills that align with the broader educational vision, ultimately benefiting student outcomes. Furthermore, aligning professional development with educational goals and standards enhances teacher efficacy. Educators feel empowered when they understand their professional growth aligns with the school's mission and educational priorities (Desimone & Pak 2017). This

alignment cultivates a sense of purpose, helping teachers recognise their role in contributing to larger educational goals. As a result, educators are more motivated to implement strategies that directly impact student learning. Further, the research by Gore et al. (2017) indicates that when professional development aligns with educational goals and standards, the impact on student achievement becomes more measurable. By targeting specific skills, instructional methods, or approaches aligned with curriculum objectives, educators are better equipped to create meaningful learning experiences for their students. This alignment ensures that professional development efforts are not isolated but contribute directly to the broader educational mission.

Teaching practices connected with curricular subjects are the centrepiece of professional development and help teachers learn in their teaching environments. For example, Allen and Penuel (2015) confirmed that science-specific professional development programs aimed to improve teachers' knowledge of how to teach science effectively. The primary objective was to assist teachers in better understanding how their pupils think scientifically so that they could anticipate and deal with their ideas and misconceptions. The second objective was to assist educators in learning how to organise scientific concepts so that students could create a coherent "story" that made meaning to them. Thus, PD becomes clear and very effective by aligning it with the educational goals and standards of the curriculum. Kennedy's (2016) study stresses the importance of aligning professional development with educational goals and standards. This approach enhances teacher efficacy and motivation and directly influences student learning outcomes. Practical implementation worldwide affirms the value of this alignment, emphasising how it ensures that professional development efforts are purposeful, impactful, and aligned with the overarching educational vision.

2.3.1 Professional Development in Active Learning and Collaboration

Professional development should engage teachers in active learning and collaboration, providing opportunities for teachers to learn from and with their colleagues (Darling-Hammond et al., 2017; Vangrieken et al. 2017). Active learning and collaboration are cornerstones of effective professional development for educators. Desimone and Pak (2017) and García-Carrión et al. (2017) emphasise the value of engaging teachers in active learning and collaborative experiences. These approaches empower educators to enhance their skills, exchange ideas, and collectively elevate teaching practices. Practical implementation of these principles further highlights their transformative impact on professional growth and student learning outcomes. Gore et al. (2017) and Bowe and Gore (2017) affirm that traditional, passive forms of professional development often fall short of driving meaningful change. On the contrary, active learning methodologies, where educators participate actively in the learning process, have proven more effective. Collaborative environments facilitate knowledge sharing, discussions, and idea exchange, all of which contribute significantly to professional growth.

In addition, active learning engages educators in hands-on experiences, encouraging them to apply new concepts directly to their teaching contexts. Workshops, interactive simulations, role-playing exercises, and problem-based learning are examples of active learning strategies. These approaches not only deepen understanding but also provide a realistic view of how new techniques can be implemented effectively in the classroom (Thurlings & den Brok 2017). According to McKeown et al. (2019), collaborative professional development enables teachers to learn from and with their colleagues. Peer interactions offer fresh perspectives, diverse insights, and real-life experiences that can be directly translated into effective teaching strategies. Collaborative sessions, such as lesson planning groups, action research teams, or cross-disciplinary discussions, foster a culture of shared learning and innovation. Peercy and Troyan (2017) added that educational institutions have embraced active learning and

collaboration in professional development. For instance, workshops might involve teachers in designing and implementing inquiry-based projects, allowing them to experience student-centred learning firsthand. Collaborative settings, such as professional learning communities, encourage educators to collectively explore challenges, brainstorm solutions, and share successful practices, thus enriching their collective expertise (Park et al., 2012; Woodland & Mazur, 2019).

Active learning and collaboration empower teachers in their professional growth journey (Darling-Hammond et al. 2017; Macias 2017). These approaches nurture a sense of ownership over learning, enabling educators to experiment with new strategies and reflect on their impact. By engaging with colleagues, teachers expand their knowledge base, refine their instructional techniques, and build a supportive network that sustains their growth over time. Gore et al. (2017) and Desimone and Pak (2017) emphasise that active learning and collaboration ultimately benefit student learning outcomes. Educators who engage in these practices are better equipped to create dynamic student-centered classrooms. Their exposure to diverse teaching methods and insights enables them to cater to varied learning styles and better address student needs. Through active learning, teachers can build and implement new teaching tactics firsthand. In this process, teachers frequently engage in the same kind of learning they are planning for learners in PD models that emphasise active learning, using real-world examples of curriculum, pupil accomplishments, and interaction.

Finally, McElearney et al. (2019) and Vangrieken et al. (2017) reinforced the pivotal role of active learning and collaboration in effective professional development. Institutions promote a culture of continuous growth and innovation by engaging educators in hands-on experiences and encouraging collaborative environments. The practical implementation of these principles transforms teaching practices and directly impacts student learning outcomes by empowering educators to create engaging, student-centred learning experiences.

2.3.2 Professional Development in Content Knowledge and Pedagogic Strategies

Professional development should focus on building teachers' content knowledge and pedagogical strategies to help them better understand their subject matter and how to teach it effectively (Desimone & Pak, 2017; Kennedy, 2016). Content knowledge and pedagogical strategies are integral components of effective teaching. Content knowledge entails a deep understanding of subject matter beyond facts, encompassing concepts, context, and applications. This knowledge enhances a teacher's credibility, enables clear communication, and facilitates adaptability in addressing diverse student questions.

Pedagogical strategies, on the other hand, encompass a range of techniques to convey content effectively, engaging various learning styles and promoting critical thinking. The interplay of these aspects forms the foundation of impactful instruction, which can be developed through professional development. The synergy between content knowledge and pedagogical strategies is where effective teaching truly unfolds. Teachers with comprehensive content knowledge can tailor pedagogical methods to make the subject matter accessible and engaging. For example, a history teacher well-versed in a historical era can use interactive projects and primary sources to foster deeper understanding. The continuous growth of both components is vital. Teachers must continually update their content knowledge while exploring innovative teaching methods facilitated through professional development workshops, collaboration, and technology integration (Gore et al. 2017). The aim is to enhance student learning outcomes.

When teachers combine robust content knowledge with effective pedagogical strategies, students benefit from engaging, relevant, and comprehensible instruction (Darling-Hammond et al. 2017; Tomlinson 2001). Beyond academic content, students develop critical skills like problem-solving and communication. This approach recognises the dynamic nature of education, preparing students not only for subject mastery but also for success in a rapidly evolving world. In

other words, integrating content knowledge and pedagogical strategies forms a powerful framework that enriches the educational experience and empowers educators and learners, and all these can be achieved through professional development (McElearney et al. 2019).

2.3.3 Sustenance and Duration of Professional Development

Professional development should be sustained over time, rather than just a one-time event, to allow for deeper learning and application of new knowledge and skills (Darling-Hammond et al. 2017). Professional development in education has evolved beyond brief, one-time events. Research-backed insights advocate for a sustained duration to facilitate deeper learning and effective application of new knowledge and skills. Darling-Hammond et al. (2009) conducted seminal research that emphasises the significance of continuous and extended professional development. The evidence from this research and practical implementation shows how sustained duration empowers educators to engage in meaningful, long-term growth that positively impacts their teaching practices and student outcomes. Darling-Hammond et al. (2009) research elucidates the positive impact of extended and ongoing professional development on teacher effectiveness. The study suggested that short-term workshops or one-time events may introduce new concepts, but they often fail to foster lasting changes in instructional practices. Conversely, sustained duration allows educators to delve deeper into the concepts, experiment with various methods, reflect on their experiences, and refine their skills over time (Darling-Hammond et al. 2009). In addition, a sustained duration of professional development offers a unique opportunity for educators to engage in deeper learning. This extended engagement allows teachers to explore the nuances of the subject matter, dissect intricate pedagogical techniques, and contemplate how these insights align with their classroom dynamics (Kennedy 2016). Such comprehensive learning goes beyond surface-level understanding, ensuring a profound comprehension of the material and its practical application.

One-time professional development events often struggle to bridge the gap between theoretical concepts and practical implementation (Darling-Hammond et al. 2017). However, a sustained duration approach addresses this challenge, and educators are given ample time to grasp theoretical frameworks and experiment with these concepts in their classrooms. The iterative trial, reflection, and adjustment process enables teachers to adapt strategies to suit their teaching styles, student needs, and unique classroom environments (Gore et al. 2017; Desimone & Pak 2017).

Sustained duration professional development contributes to cultivating a culture of continuous growth among educators. Vangrieken et al. (2017) confirmed that when teachers engage in ongoing learning, they demonstrate commitment to their profession and model the importance of lifelong learning for their students. This practice creates an environment where educators consistently seek improvement, embrace change, and become effective student role models. Educational institutions around the world have adopted sustained-duration professional development programmes, aligning with the recommendations of McElearney et al. (2019). These programmes often include workshops, coaching, collaborative projects, and regular follow-up sessions. In sustained-duration professional development, educators attend monthly workshops and receive coaching support throughout the academic year. This practice has shown positive results, with teachers reporting enhanced confidence, improved teaching practices, and better student engagement.

Thus, Darling-Hammond et al. (2009) and McElearney et al. (2019) resonate with the practical implementation of sustained-duration professional development. This approach acknowledges that meaningful growth takes time and promotes a profound understanding of concepts, smoother transitions from theory to practice, and a culture of continuous learning. By embracing sustained duration initiatives, educational institutions empower teachers to deepen their learning, refine their

instructional strategies, and ultimately elevate the quality of education they provide to their learners.

2.3.4 Imperative Support and Coaching for Effective Professional Development

Professional development is a cornerstone of educational advancement, seeking to elevate teachers' expertise and instructional efficacy. An indispensable facet of effective professional development lies in providing ongoing support and coaching to educators, a practice validated by research findings. Darling-Hammond et al. (2017) and Kennedy (2016) have examined the benefits of sustained guidance for teachers, emphasising its role in implementing novel strategies and allowing for necessary adjustments in response to real-world classroom dynamics. Ongoing support and coaching constitute a research-backed methodology that acknowledges the intricate nature of integrating new pedagogical techniques. According to Desimone and Pak (2017) and Kraft et al. (2018), this approach is rooted in the idea that effective implementation necessitates continuous feedback and guidance beyond the initial training phase. Similar to athletes refining their skills under consistent coaching, teachers require ongoing support to assimilate innovative methods into their teaching practices seamlessly.

Many professional development studies indicate that bridging the gap between theory and practice in education requires nuanced guidance and personalised coaching. The studies by Gore et al. (2017) and McElearney et al. (2019) illuminate that this process involves addressing teachers' contextual complexities. Workshops and seminars, on the other hand, provide theoretical foundations; ongoing support ensures educators can apply these principles effectively in their unique classroom environments. This confirms the pivotal role of ongoing support in nurturing reflective pedagogy. Educators can engage in meaningful dialogue about their teaching experiences, successes, and challenges by regularly interacting with mentors or coaches (Gibbons & Cobb 2017). This reflective

practice empowers teachers to critically assess the impact of new strategies, adjust their methods based on real-time feedback, and continuously enhance their instructional techniques.

Thus, Darling-Hammond et al. (2017) and Gore et al. (2017) agree with the notion that student-centric instruction demands adaptability and personalisation. Ongoing support and coaching enable teachers to tailor their strategies to accommodate diverse learning needs, promoting a more inclusive and effective learning environment. Through sustained guidance, educators can analyse student data, identify areas of improvement, and modify their teaching approaches accordingly. Considering the research conducted by Desimone and Pak (2017) and Kraft et al. (2018), it is evident that ongoing support and coaching significantly enhance the impact of professional development for teachers. This research-backed approach bridges the gap between theory and practice, fosters reflective pedagogy, and empowers teachers to tailor strategies to student needs. As education evolves, embracing sustained guidance in professional development transforms it into a dynamic, collaborative journey that promotes continuous growth and elevates the quality of teaching, ultimately benefiting students' learning experiences.

2.3.5 Monitoring and Evaluation of the Effect of Professional Development

Professional development should include ongoing monitoring, evaluation, and feedback to measure its effectiveness, and adjustments should be made as needed. By encouraging reflection and seeking feedback, high-quality professional learning usually includes periods that allow teachers to reflect, get feedback, and modify their practice accordingly (Kennedy 2016; Gore et al. 2017). Teachers may provide feedback while reviewing lesson plans, example classes, or instructional videos, which also present chances for reflection on what might be improved, retained, and reinforced. These exercises are usually done in a coaching session or workshop setting but can also be done with peers (Desimone & Pak 2017; McElearney et al. 2019).

Effective professional development goes beyond imparting knowledge; it involves a continuous improvement cycle. Incorporating ongoing evaluation and feedback mechanisms is a research-driven practice that ensures professional development initiatives are impactful and responsive to educators' needs (Darling-Hammond et al. 2017; Kraft et al. 2018). Scholarly research and practical implementation provide compelling evidence of the significance of evaluation and feedback in refining teaching practices and enhancing student learning outcomes. Park et al. (2012) and Vangrieken et al. (2017) highlight the importance of ongoing evaluation and feedback in professional development. They emphasise that assessment is about measuring success and understanding how to make improvements. Ongoing evaluation helps educators identify areas of strength and areas needing growth, which, in turn, informs the customisation of professional development plans.

Darling-Hammond et al. (2017) and Gore et al. (2017) reported that ongoing evaluation and feedback provide a data-driven foundation for decision-making so that educators can use assessment data to gauge the impact of new strategies on student learning outcomes. For example, in the case of a professional development initiative aimed at enhancing inquiry-based teaching, ongoing assessment could reveal whether this approach led to increased student engagement and critical thinking skills. Kennedy (2016) and Desimone and Pak (2017) stressed that professional development should be adaptive and responsive, evolving in tandem with changing educational landscapes and needs. Ongoing evaluation allows educators to gauge the effectiveness of strategies in real-time. If certain methods prove more successful than others, adjustments can be made promptly, maximising the impact on teaching practices and student learning. Educational institutions worldwide have embraced ongoing evaluation and feedback as integral components of professional development. Regular assessments, surveys, classroom observations, and self-reflection mechanisms are implemented to gather insights. These practices enable educators to reflect

on their experiences, identify areas for growth, and collaborate with mentors or colleagues to refine their teaching practices.

Additionally, ongoing evaluation and feedback empower educators by promoting a growth mindset. Feedback provides valuable insights that foster reflective practice, encouraging educators to analyse their teaching methods, identify areas for improvement, and take proactive steps to enhance their effectiveness in the classroom. This approach nurtures a culture of continuous learning and professional growth. Kennedy (2016) demonstrated that professional development initiatives with strong evaluation and feedback components enhance student learning outcomes. When educators receive timely feedback on their teaching practices, they can make adjustments that directly impact the quality of instruction. Improved teaching practices, in turn, positively affect student engagement, understanding, and inclusive academic achievement. Finally, Gore et al. (2017), Darling-Hammond et al. (2017), Kraft et al. (2018), and Desimone and Pak (2017) strongly advocate for integrating ongoing evaluation and feedback in professional development. This research-backed practice allows educators to make data-driven decisions, adapt to changing needs, and continuously refine their teaching methods. Practical implementation worldwide demonstrates the transformative impact of ongoing evaluation in enhancing educators' skills and, consequently, enriching student learning outcomes.

2.4 EMPIRICAL STUDIES ON PROFESSIONAL DEVELOPMENT IN ARTS EDUCATION

Mpako's (2005) doctoral thesis reported on a three-year professional development project conducted in selected schools in South Africa. Her study utilised action science theory within a collaborative intervention between herself as the researcher, a higher educational professional, and participants who were elementary school teachers. The study produced a unique model of professional development for visual arts educators as a solution to the inclusion of Arts and Culture in a newly implemented curriculum in South Africa at the time. Her study's

question was, “What can be done to introduce and empower a positive approach to teaching and learning in Visual Arts Education”? It attempted to answer questions similar to the research questions in this study. This was accomplished by recognising the significance of in-service teachers in developing the teaching profession and the impact of classroom-based research on professional development.

The circumstances of the educators (the participants) that serve as the framework for her study were gathered using naturalistic data collection techniques. These were ethnographic and action research methods. Naturalistic evaluation and domain analysis were used to analyse the data produced, and the model that emerged from this analysis captured how the data were interpreted. This emergent model was and still is significant because, despite being developed in the context of the visual arts and in a South African regional setting, it can be applied generally to solve issues experienced nationally and internationally, hence the relevance of her research to this study.

Schmidt and Robbins (2011), in their article “Looking Backwards to Reach Forward: A Strategic Architecture for Professional Development in Music Education”, examined professional development in music education while considering how changing policy depends on creating an environment where revitalised practice can sustain itself. The authors provided an interpretive framework based on important issues and actions identified by other authors in this Arts Education Policy Review issue while situating professional development within the current politico-educational climate. They also propose a practical policy agenda centred on the idea of a strategic architecture for professional development in music education, arguing that it may improve teacher productivity and retention by ensuring greater confidence in teachers' ability to adapt, engender concepts, and intervene in instructional patterns. The article urged union leaders, the government, and institutions of higher learning to work together

to create a professional development agenda that views teachers as capable change agents.

Battersby and Verdi (2015), in their study, *“The Culture of Professional Learning Communities and Connections to improve teacher efficacy and support student learning”* recounted how “The Race to the Top” initiative encouraged states to compete for school improvement grants to advance educational reforms like efficient, professional development and teacher collaboration within their school districts. Creating teacher evaluation systems and a professional development framework to support teacher effectiveness were demands of the grant. All the grant recipients decided to implement some form of Professional Learning Community (PLC), and they all went with models that emphasised developing and maintaining teacher collaboration across all subject areas. PLCs allow music educators to receive pedagogy, especially suited to their field. In addition to addressing professional development, teacher isolation and attrition, student achievement, and district-wide fundamental change, music teachers and arts supervisors should consider incorporating online PLCs into their programmes.

Burnaforf (2009) conducted a study entitled “A Study of Professional Development for Arts Teachers: Building Curriculum, Community, and Leadership in Elementary Schools”. This study was carried out in a significant urban school district. A Fine Arts School Network was established from 59 elementary schools that the district had designated as Fine Arts Schools. Over three years, the school district collaborated with an outside arts organisation to provide art, music, dance, and drama teachers with professional development grounded in research and teamwork. The impact of network-based intensive professional development for arts teachers was examined in this government-funded initiative for professional development in four key areas:

- Their role in creating community in their schools; their roles as community builders in their schools.

- Their role in developing curriculum with non-arts teachers in their schools and
- Their role is in developing their leadership capacities.

The fourth research topic concerned how network-based professional development for arts instructors affected the schools where they were employed. Quantitative and qualitative information, including curriculum projects, student work, online documentation templates, interviews, and focus groups, was gathered and analysed. Quantitative information included surveys of participating arts teachers. The findings showed that due to the professional development they received, arts teachers spent more time with their principals and their non-arts teacher colleagues. In the literacy domains of story elements, analytical writing, creative writing, and critique of arts experiences, they deepened their understanding of the value of an arts integration curriculum in which their own arts expertise contributes to learning and teaching design. The study also showed how professional development enhanced arts teachers' capacity to exercise leadership in their schools by participating in School Improvement teams, making decisions about outside arts partnerships, and carrying out staff development. The study provided recommendations for school districts regarding the significance of focused professional development for arts specialists. In addition, the study suggested roles for outside arts partnership organisations in district-supported professional development, as opposed to the more traditional model of school residencies. Finally, the findings suggested the possibility of assisting arts teacher specialists in creating and implementing professional development and curriculum initiatives in their schools.

Lind (2007) worked on “High-Quality Professional Development: An Investigation of the Support for and Barriers to Professional Development in Arts Education”. This study aimed to examine a professional development model that supports and encourages arts educators to deepen their knowledge of the Visual and Performing Arts Standards, expand their toolkit of teaching and assessment

techniques, and develop their leadership abilities. Data was compiled over two years from 300 hours of observation, focus groups and individual interviews, written responses to reflective prompts, unit plans, video and audio tapes, and student work samples. The results showed that collaborative working, concentrating on student learning, and identifying and planning curricula around issues central to the discipline positively impacted teachers' work. Constantly cited as a hindrance to professional advancement was the time management problem.

2.5 ART EDUCATION IN THE HOLISTIC DEVELOPMENT OF CHILDREN

Art education plays a pivotal role in nurturing the holistic development of children (Eisner 2003). Through engagement with various forms of artistic expression, such as painting, drawing, music, and theatre, children are afforded opportunities to explore and develop their creative abilities, critical thinking skills, and emotional intelligence (Ludwig, Boyle, & Lindsay 2017). Participation in art activities encourages self-expression, encourages experimentation, and promotes problem-solving skills (Greene et al. 2019). Moreover, art education enhances social and emotional development by facilitating communication, collaboration, and empathy among peers (Holochwost et al. 2018). By integrating art into the curriculum, educators can create inclusive learning environments that cater to diverse learning styles and promote general well-being (Hardiman et al. 2019; Freedman, 2003; Fiske, 1999). Thus, art education serves as a cornerstone in the comprehensive development of children, nurturing their cognitive, emotional, and social capacities (Goodwin & Dowling, 2012; Wan et al. 2018; Fiske, 1999).

2.5.1 The Importance of Art Education in Fostering Creativity

Arts education has been shown to have a significant positive influence on creativity among learners. According to Runco and Jaeger (2012), arts education allows learners to develop their creative thinking skills by encouraging experimentation, exploration, and risk-taking. In a study by Fong and Slotta (2018), it was found that arts education had a positive impact on the creativity of

primary school students in Hong Kong. The study revealed that students who participated in arts education activities showed significant improvements in their creative thinking skills compared to those who did not participate in such activities. Likewise, a study by Goldman, Yalowitz and Wilcox (2016) found that arts education can enhance learners' creative thinking skills. The study showed that students who received arts education were better able to generate creative ideas and solutions to problem-solving. Furthermore, an analysis combining multiple studies examining the impact of arts education on creativity by Baer (2010) concluded that arts education can positively impact creativity, particularly in the areas of originality and flexibility.

According to Winner et al. (2013), arts education greatly influences creativity at all levels. To think, process, and communicate effectively, professionals like physicists, architects, mathematicians, and sociologists often integrate drawing because it is a universal means of communication and promotes creativity and the flow of ideas (Harris & de Bruin 2018; Hardiman 2016; Dorn, 1999; Goertz, 1991). Visual arts greatly influence children, frequently shaping their comprehension of the world through drawing (Jindal-Snape 2018; Fowler, 2001). By middle school, the ability to convey emotions and naturalness in children's drawings and artworks, if not nurtured, is often lost (Furst & Nylander 2023; Eisner 2003). Children are able to recognise the control they have over their creativity through the use of imagination and the consideration of possibilities (Davies et al. 2013; Eisner, 2003). Making art promotes creativity by allowing one to communicate ideas by representing observations (Patston et al. 2021). Children can see connections and synthesise information in new ways thanks to all-embracing characteristics of creativity, which are supported by arts education (Gajda et al., 2017; Davies et al., 2013; Lassig 2020; Fowler, 2001; Eisner, 2003). The environment has a significant impact on how creative people are. For instance, school environments that value independence, adaptability, and self-discovery can encourage students' creative potential (Hernández-Torrano et al. 2020; Ramirez & Ganaden 2008). Availability of resources and information,

guidance and exemplification, encouragement strategies, and tasks that encourage open exploration are all factors that can support the growth of a creative learning environment (Richardson & Mishra 2018).

To foster creativity in students, it is preferable to place more emphasis on process and effort than on product and outcomes. Diverse opinions and opposing points of view are acceptable in a non-threatening environment, which also permits the exploration of different strategies (Patston et al. 2021). Restrictive, anti-creative school environments can motivate students to respond with unhelpful behaviours, such as underachievement and dropping out (Kettler et al. 2018; Gralewski & Karwowski 2018; Kim & Hull 2012; Kim & VanTassel-Baska 2010). Through art education, we can encourage students to be more exploratory and playful by promoting playful inquiry, mentoring roles, and self-directed learning (Davies et al. 2013). Teachers must understand the arts and learn how to use them effectively as teaching tools to maintain a creative school environment (Harris & de Bruin 2018). Depending on how the arts are learnt and taught, arts education may or may not foster students' creativity. Students won't engage in creative mental exercise if the techniques of artistic expression are taught to them in repetitive, imitative, and meaningless formats (Puente-Díaz & Cavazos-Arroyo 2017). Children will not experiment, assess, or translate their intuitions into artistic expressions; instead, they will follow instructions and perform as instructed (Rinkevich 2011).

Before learning the techniques needed to practice the arts, students should be encouraged to expand their creative and critical thinking (Sawyer 2017). According to recent research in arts education, innovative, critical, reflective, divergent thinking, improvisational, and experiential learning should all be emphasised in arts education, and learners should be able to connect with their learning through practice-based learning and experimentation (Chemi & Du 2018; Vygotsky 1978). These would only be possible if there were specialist art teachers to teach art and creativity effectively. Unfortunately, classroom teachers

in elementary and middle schools in the United States, who are mostly generalist teachers and do not have specialist training in the arts, are responsible for teaching the arts. As a result, these teachers can less effectively incorporate the arts into the curriculum.

The lack of suitably qualified teachers to teach the arts at elementary and middle schools in the United States mirrors the situation in Ghana, creating significant challenges for effective arts education. In the U.S., a report by the National Art Education Association highlighted that many schools struggle to recruit and retain certified art teachers, often due to budget constraints and the undervaluation of arts education (NAEA 2014). Sadly, this is the case in Ghanaian schools because teachers who never had training in the arts are made to teach creative arts (Opoku-Asare et al. 2015), hence the need for this study.

KEA European Affairs (2009) recommends that for students to have an authentic experience in the creative process, partnerships with outside artists, institutions of the arts, and creative professionals are necessary to develop a creative school climate. According to Csikszentmihalyi (1996), this initiative will assist students in finding the ideal balance between unstructured, intuitive experimentation and guidance and mentoring. However, in Ghana, at the basic level of education, there is no partnership with professional artists and art institutions where children can develop practical creativity and nurture their talents. There is a complete disjunction between what art practitioners and art establishments do and what the basic school creative arts entail. Creative arts are taught largely by non-art teachers (Opoku-Asare et al. 2015). Studies have provided evidence that arts education can significantly influence creativity in learners by providing opportunities to engage in creative activities, experiment, and explore, which will ultimately help learners develop their creative thinking skills, positively affecting their personal and professional lives (Winner et al. 2023; Lassig 2020). Unfortunately, there are not enough well-trained art teachers in Ghana to enable

children to explore creative opportunities and benefit from those opportunities (Opoku-Asare et al. 2015; Boafo-Agyemang 2010).

2.5.2 The Importance of Art Education in Academic Achievement

Numerous studies have suggested that arts education positively impacts academic achievement. For example, a study by Catterall et al. (2012) found that students involved in arts education had higher academic achievement in various subjects, including mathematics and science, than those who did not receive arts education. Similarly, a meta-analysis study by Guhn et al. (2020) found that arts education was associated with improved academic outcomes, particularly in reading and mathematics. Furthermore, a study by Burton et al. (2000) found that students who received arts education had higher levels of motivation and engagement in school, which can lead to improved academic achievement. Additionally, arts education has been linked to developing critical thinking and problem-solving skills, which are important for academic success (Eisner 2003).

Recent research confirms that receiving an education in the arts ensures a variety of healthy cognitive habits (Hardiman et al. 2019). Studies have shown links between the arts and better academic performance (Holochwost et al. 2017), confidence (Ludwig et al. 2017), and higher-level thinking related to increased academic achievement (Bowen & Kisida 2019; Greene et al. 2014). According to Catterall et al. (2012), students who participate in arts education on the SAT (Scholastic Assessment Test) perform better. Students from low SES (Socioeconomic status) backgrounds can also benefit from this relationship (Bowen & Kisida 2019; Catterall et al. 2012).

Beyond its effects on academic achievement, arts education can assist students in acquiring entrepreneurial-type skills. It is crucial for students to develop entrepreneurial skills because businesses depend more and more on creative professionals to spark business innovation as the creative economy takes off (Oakley et al. 2008). The flexibility of artistic expression encourages several skills,

such as abstract reasoning, active thinking, and making decisions under pressure, that would seem advantageous to the creative economy. Against this background, this study aims to enhance the teaching and learning of creative arts and design in basic schools in Ghana by devising a professional development model for non-arts teachers compelled to teach creative arts. The research argues that arts education can positively impact academic achievement by improving motivation, engagement, and critical thinking skills (Winner et al. 2023; Gajda et al. 2017).

2.5.3 The Importance of Art Education in Arts for Arts' Sake

Beyond its practical advantages, arts education has positive effects. The motivation and engagement of children are higher when they are engaged in activities that pique their interest and place more emphasis on mastery objectives than on performance objectives. Wang and Holcombe (2010) assert that arts education gives students the chance to appreciate various viewpoints on a single topic, reiterating the values of artistic interpretations and enhancing respect for one's artistic interpretation as well as that of others (Gardner 2004). According to KEA European Affairs (2009) and Venable (2005), this may motivate students' interest in other academic fields. In many ways, self-expression can benefit from an arts education. For instance, Malchiodi (2003) found that students can express themselves and their worldviews through the arts more than through other academic subjects.

Additionally, the connections students make through collaborative experiences in arts education foster a sense of responsibility and community connection (Davis 2008), offering a non-verbal means of expression and conflict resolution (Kagan 2009). Emotional health can be enhanced through arts education. According to research, when arts education is made continuously available, it can positively impact self-perceptions and emotions (Lee 2011; Malchiodi 2003). Emotional balance is known to be promoted by making art (Silver 1999). Furthermore, arts education can help children feel calmer (Malchiodi 2007) and can provide solace

from the daily chaos and feelings of helplessness for children who are mentally ill (Moon 1995). All these benefits can be realised with a vibrant arts education with well-trained art teachers at the basic level of education. Unfortunately, vibrant arts education is something Ghanaian children lack because they do not have specialist art teachers to enable them to realise these benefits. It is, therefore, necessary to develop a model to train the generalist teachers who are compelled to teach the arts and are not finding it easy, emphasising the need for the current study.

2.5.4 The Role of Art Education as Art Therapy

Arts education has been recognised as a valuable tool in therapy, as it can provide individuals with an expressive outlet for emotions and experiences that may be difficult to articulate verbally (Malchiodi 2011). Art-based interventions have been used in a variety of therapeutic settings, including trauma treatment, substance abuse recovery, and mental health treatment. A study by Kaimal et al. (2016) found that engaging in visual arts activities was associated with lower cortisol levels, a stress hormone, in college students. This suggests that arts education may have physiological benefits in addition to its psychological benefits. Another study by Fancourt et al. (2014) found that music interventions had positive effects on psychological well-being in adults with mental health conditions.

The arts have been used to advance physical and mental wellness in ancient and modern times. This is most obviously apparent when visual art is used in art therapy to enhance health and recovery (Evans & Dubowski 2001). Improved mood, self-esteem, self-expression, self-awareness and self-acceptance, insight, and total psychological well-being are all positive outcomes of art therapy (Crawford & Patterson 2007; Field & Kruger 2008). Visual art offers a psychologically safe environment where people can express powerful emotions because it focuses on non-verbal communication.

Art therapy has been incorporated into psychotherapeutic and psychiatric therapy since the 1940s (Crawford & Patterson 2007). Formal efforts to do this have been made since that time. People who participate in art therapy can improve their ability to solve problems and have more complex thought processes. They can also interpret information more creatively, feel more in control of their lives, and are less likely to experience helplessness or depression (Crawford & Patterson 2007; Field & Kruger 2008). Various studies on the role of art therapy suggest that arts education can be a valuable tool in therapy, providing individuals with self-expression and psychological and physiological benefits.

2.5.5 The Impact of Arts Education on At-risk Students

At-risk students are affected by various factors, including socio-economic status, low academic achievement, and/or behavioural issues. Studies have shown that participation in arts education programmes can improve academic achievement and reduce dropout rates among at-risk students (Catterall et al. 2012). McLaughlin (2000) conducted an extensive eleven-year study on young people residing in low-income communities. The study revealed that individuals who engaged in arts programs that centred in the local area had a higher probability of achieving excellent academic results, being elected to the class office, participating in math or science fairs, or receiving recognition for their ability to write creatively. Another study by Everett-Brown (2017) found that participation in a music programme improved the academic performance and attendance of at-risk middle school students. Arts education can also give at-risk students a sense of belonging and self-worth. A study by Henderson & Mapp, (2002) on a theatre programme for at-risk youth found that participation in the programme improved participants' self-esteem and social skills.

A study of the benefits of arts education for students at risk showed promising results in settings such as juvenile delinquency detention facilities (Venable 2005). A 2001 Coalition for Juvenile Justice study states that 35 per cent of high school dropouts are unemployed. High school dropouts without jobs have a three

times higher likelihood of being arrested than high school graduates (Coalition for Juvenile Justice 2001), and over their lifetimes, earn less money than high school graduates (Berkthold et al. 1998). In addition, the likelihood of substance abuse is higher among high school dropouts than among their peers (Hoffman 2002; Drapela 2006). Quality education, which includes a successful arts education, can lower re-offence rates by 20% (Coalition for Juvenile Justice 2001). This is so because receiving an arts education in prison can help inmates rediscover their humanity and gain self-control (Williams 2002). The Great Wall of Los Angeles by Judith Baca and the Philadelphia Mural Arts Programme by Jane Golden are two mural projects in cities that support the advantages of developing artistic skills (Venable 2005). Generally, recent research confirms that arts education has the potential to be a valuable tool in supporting and improving the academic achievement, attendance, and self-esteem of at-risk students (Bowen & Kisida 2019; Ludwig et al. 2017; Holochwost et al. 2017). These studies highlight the multifaceted benefits of arts education, not only in terms of academic performance but also in developing crucial life skills and promoting positive social outcomes.

2.6 OVERVIEW OF GHANAIAN ARTS EDUCATION

Arts education in Ghana has a long history, dating back to the pre-colonial era when traditional art forms such as pottery, weaving, carving, and drumming were used for cultural and educational purposes (Flolu 2000). During the colonial period, Christian missions and government-run schools introduced Western-style art education to Ghana. These schools focused primarily on teaching Western art techniques and styles, and traditional art forms were often discouraged (Edusei 2004). After Ghana attained independence in 1957, the government recognised the importance of art education and established the National Commission on Culture to promote and preserve the country's rich cultural heritage (Flolu 2000). The government also established the Ghana School of Art and the Kwame Nkrumah University of Science and Technology, both of which continue to play a vital role in the development of art education in Ghana (Edusei 2004; Flolu 2000; Nortey et al. 2021). In the 1970s and 1980s, there was a

growing emphasis on using art education for social and political change. Many artists and art educators began to use their work to address issues such as poverty, inequality, and political oppression (Edusei 2004).

Recently, a renewed focus has been on traditional art forms, particularly promoting Ghanaian culture and heritage. This has led to the establishment of various cultural centres and museums, such as the Ghana National Museum and the Chale Wote Street Art Festival, which showcase the work of contemporary artists and promote the understanding and appreciation of Ghanaian art (Artwatch Ghana 2017). Today, art education in Ghana continues to be an important aspect of the country's culture and society. The Arts Council of Ghana and the Ghana Museums and Monuments Board are among the organisations that promote and preserve traditional art forms and support contemporary artists and art educators (Artwacth Ghana 2017). In the Ghanaian education system, arts education is commonly referred to as Creative Arts and includes music, dance, drama, and visual arts (NaCCA 2020). The aim of arts education in Ghana is to promote creativity, critical thinking, and cultural appreciation among students. According to the Ghana Education Service (GES), the goals of Creative Arts education in Ghana include promoting cultural and artistic diversity, developing students' aesthetic and artistic abilities, and providing opportunities for self-expression and creativity (GES 2020).

The Ghanaian government has made efforts to promote arts education in the country by including it in the national curriculum. The current curriculum for Creative Arts in Ghana focuses on practical skills development and provides teaching and learning guidelines (GES 2020). However, there are challenges facing arts education in Ghana, including inadequate resources, limited professional development opportunities, negative societal attitudes, lack of appropriate infrastructure, and insufficient time allocated to the subject (Opoku-Asare et al. 2015; Aidoo 2018; CRDD 2014; Opoku-Asare et al. 2015; Axadzi 2016; Boamah & Asante 2021). These challenges are elaborated further in a

subsequent sub-heading, “Challenges of Teaching Art in Ghana”. Despite the challenges, arts education remains an important part of the Ghanaian education system. According to UNESCO, arts education is critical in promoting cultural diversity, social cohesion, and economic development (UNESCO 2013). Stakeholders must collaborate to address the challenges facing arts education in Ghana and promote its importance in the education system.

Art education in Ghana has transformed over the years, from traditional art forms to Western-style art education during the colonial period to a renewed focus on preserving and promoting traditional art forms and using art education as a tool for social and political change. Today, arts education in Ghana is offered at various levels of the education system, including primary, junior high, and senior high schools, as well as tertiary institutions.

The National Council for Curriculum and Assessment (NaCCA) provides the curriculum framework for art education in Ghanaian schools, focusing on teaching creative arts. The creative arts subjects are taught at the basic education level (kindergarten to junior high school) and the senior high school level. The curriculum is designed to help students develop their creativity, critical thinking, problem-solving skills, and social and emotional skills (NaCCA, 2020). At the basic education level, the creative arts curriculum focuses on developing basic skills, such as singing, dancing, drawing, and painting, as well as appreciating Ghanaian culture and heritage through the arts. The senior high school level curriculum, on the other hand, is designed to help students develop advanced skills in music, visual arts, drama, and dance to prepare them for tertiary education in the arts or related fields (NaCCA 2020).

The art education curriculum in Ghanaian schools has faced several challenges, including a lack of resources, inadequate training of teachers and insufficient time allocated for the teaching of creative arts (Opoku-Asare et al. 2015). As a result, some schools have had to rely on external support, such as non-governmental

organisations, to provide resources and training for art teachers (Adu-Baffoe & Bonney 2021). Art education is an important part of the curriculum in Ghana and is taught at various levels of education, from primary to tertiary level, with a focus on traditional and contemporary art forms, digital art and animation, art history and art appreciation, a lot still needs to be done to improve the quality of teaching and learning.

2.6.1 The Teaching of Creative Arts in Ghana

Kindler (2008) defined creative arts as music, dance, and visual and performing arts. In agreement with this claim, the Ghana Teaching Syllabus for Creative Arts (2007) defines creative arts as a combination of visual arts (such as drawing, weaving, modelling, casting, carving, and painting), sewing, and performing arts (such as music, dance, and drama). According to Alter, Hays, and O'Hara (2009), understanding abstract symbolism and deciphering other people's communications are essential skills for a creative arts education. The main tenet of the creative arts is problem-solving and critical and creative thinking, which is evidence in favour of this claim. This means that primary schools should seriously consider integrating the teaching and learning of the creative arts so that teachers can teach students to develop their ability to think critically and creatively as they grow older and contribute to the nation's technological advancement (Kindler 2008). According to Alter et al. (2009), teachers believe that the creative arts are outside the scope of their training and expertise. Given the wide range of subjects it covers—visual, performing, and literary arts—the creative arts in primary schools require a teacher who has received specialised training in all facets before being qualified to teach them.

The National Council for Curriculum and Assessment, under the auspices of the Ministry of Education and Ghana Education Service, has outlined the rationale and teaching philosophy of Creative Arts in basic schools in Ghana (NaCCA 2020). Among other things, Creative Arts allows learners to engage in self-exploration and self-expression, develop mental focus, enhance physical

dexterity, manage stress, and experience personal satisfaction and enjoyment (Kindler 2008). Acquiring skills through Creative Arts study can also improve performance in other academic subjects (Eisner 2003). Additionally, it prepares learners for technical and vocational programmes in later years and equips them for the modern workforce (Kindler 2008).

Furthermore, at the basic school level in Ghana, Creative Arts teaching aims to develop well-rounded learners who excel in multiple areas. It focuses on three aspects: cognitive development (Head), physical development (Hand), and emotional development (Heart) (Amenuke et. al. 1991). By studying Creative Arts, learners gain knowledge of diverse cultures, enhance logical thinking abilities, and develop effective communication and interpersonal skills. They become critical thinkers and problem solvers while also improving their self-esteem and emotional intelligence through tasks that involve intuitive, emotional, holistic, nonverbal, and visual-spatial processing. Creative Arts education cultivates artistic, intuitive, imaginative, and visually oriented learners.

The philosophy underpinning the teaching of Creative Arts in basic schools in Ghana is intricately linked with the concept of mentoring, where educators provide consistent guidance and serve as role models both within and beyond the classroom setting (Opoku-Asare et al. 2015; Flolu 2003). In this context, the teacher assumes the role of a facilitator, inspiring and motivating learners to develop a range of essential qualities crucial for artistic development and creativity (Adom et al. 2021).

One of the primary qualities fostered is observance, where learners are encouraged to be keen-eyed, paying close attention to details as demonstrated in still-life drawing exercises (Adom et al. 2021). This observational skill is complemented by the nurturing of inventiveness, where students are guided to imagine and manipulate ideas and images from memory, such as depicting

scenes from everyday Ghanaian life - a farm, a lorry station, or a hospital (Adu-Agyem an Enti 2009).

The Ghanaian creative arts curriculum also emphasises the importance of exploration (Ampeh 2011). Learners are empowered to take initiative, explore new avenues, experiment with unconventional materials, instruments, styles, and techniques, and learn from their experiences. This exploratory approach is balanced with the encouragement of expressiveness, where students are urged to convey their personal opinions and perspectives through artistic expression (Opoku-Asare & Siaw 2016).

Persistence is another key quality cultivated in Ghanaian creative arts education. Learners are taught the value of perseverance, committing themselves to activities or projects and seeing them through to completion (Adom et al. 2021; Ampeh 2011). This tenacity is coupled with reflectiveness, as students are prompted to contemplate their personal interests, skills, knowledge, and experiences, enabling them to make critical decisions and judgments (Flolu 2003).

Furthermore, perceptiveness development is crucial in the Ghanaian creative arts curriculum. Learners are guided to develop sensory awareness, engaging their senses of sight, touch, taste, smell, and hearing to enhance their artistic understanding and interpretation of their environment (Opoku-Asare et al. 2015). Finally, the curriculum fosters an appreciative attitude, encouraging learners to appraise and articulate the various values associated with individuals or objects, thereby enhancing an appreciation for different aspects and qualities of Ghanaian art and culture (Adom et al. 2021; Opoku-Asare et al. 2015; Ampeh 2011).

Creative Arts recognises and values the unique qualities of each learner. They nurture individual talents through a range of activities such as music, dance, drama, drawing, modelling, casting, weaving, and more (Opoku-Asare et al.,

2015). Learners are given the opportunity to work at their own pace, free from discrimination or comparison. Creative Arts activities engage learners in critical thinking, brainstorming, decision-making, and active learning, promoting an appreciation for different aspects of the arts. The Creative Arts curriculum is designed to be interactive, captivating, and stimulating. It allows learners to discover their talents and develop essential skills that will benefit them throughout their lives. It focuses on core competencies, functional skills, and foundational abilities (GES 2019). The classroom environment, both social and physical, should encourage inclusive participation and collaboration. Learners gain an understanding of and respect for their skills, abilities, and experiences and those of their peers. This approach establishes a sustainable pace for achieving desired learning outcomes in Reading, Writing, Arithmetic, and Creativity, known as the 4Rs (NaCCA 2020; NaCCA 2021).

Art education in Ghana faces a multitude of interconnected challenges that significantly impact its quality and effectiveness. At the forefront is the pervasive issue of resource scarcity, with Aidoo (2018) highlighting the woeful inadequacy of basic art supplies such as paint, brushes, and canvas in most schools. This scarcity extends beyond materials to encompass limited funding for art programs, directly impacting the breadth and depth of artistic experiences available to students. Compounding this issue is the significant deficit in professional development opportunities for art teachers, as noted by the National Teaching Council (2020). The Art Teachers' Association of Ghana emphasises the rarity of opportunities for educators to update their skills and knowledge in new trends and techniques, potentially leading to stagnation in teaching methods.

Societal perceptions play a crucial role in shaping the landscape of art education, with Aidoo (2018) pointing out the widespread view of art as a non-essential subject. This attitude results in low prioritisation of art in school curricula and limited parental and community support, potentially discouraging students from pursuing artistic endeavours. The infrastructure for art education is also severely

lacking, as lamented by Osai et al. (2021), who note the absence of dedicated art rooms or studios in many Ghanaian schools. This deficit in appropriate facilities limits the types of art projects that can be undertaken and the overall learning experience.

Despite efforts to create an interactive and stimulating Creative Arts curriculum (NaCCA, 2020), integrating art education into the broader curriculum remains a challenge, often leaving art isolated as a standalone subject without recognising its potential to enhance learning across disciplines. The National Teacher Education Curriculum Framework (Ministry of Education 2018) emphasises the critical need for well-prepared teachers, underscoring the importance of comprehensive teacher education programs to balance quantity and quality in art education. Opoku-Asare et al. (2015) identified these various challenges as significantly affecting the effectiveness of arts education teaching and learning in Ghana. Addressing these interconnected issues requires a concerted effort at both the policy and implementation levels to elevate the status of art education, improve resource allocation, enhance teacher preparation, and foster a more supportive societal attitude towards the arts in Ghana's educational landscape.

2.6.2 Ghanaian Current Art Education in Basic Schools

Basic education in Ghana begins from kindergarten 1(KG1) to Junior High School (JHS) 3, spanning eleven years: two years of kindergarten, six years of primary and three years of JHS. Creative Arts is currently taught in all years of basic education in Ghana due to its importance. At the primary level, it is called Creative Arts and comprises visual arts and performing arts, but in Junior High School, it is termed Creative Arts and Design and is made up of design and creative arts strands. The creative arts strand comprises visual art, music, dance and drama. The new Creative Arts curricula for primary and JHS were developed by NaCCA using the National Pre-tertiary Education Curriculum Framework (NPECF) as a guiding document. NPECF is a Ministry of Education carefully and purposefully

written document for developing subject curricula for pre-tertiary education (Ministry of Education 2018).

The Ghana Education Service (GES) developed the Common Core Programme (CCP) as a framework for the basic education curriculum in Ghanaian schools. The CCP is designed to provide students with a broad-based education encompassing all subjects, including creative arts. The creative arts component of the CCP covers four major disciplines: music, dance, drama, and visual arts (Ministry of Education 2020). The CCP for basic schools is a comprehensive curriculum that guides the teaching and learning of creative arts in Ghanaian schools. According to the CCP, the teaching and learning of creative arts in basic schools should be practical-oriented, hands-on, and engaging to help students develop their motor skills, creativity, self-expression, and critical thinking skills. The curriculum also encourages developing students' cultural awareness and appreciation of Ghanaian arts and heritage. In addition, the CCP encourages teachers to use local resources, such as materials and traditional artists, to enrich students' learning experiences.

Creative Art and Design is introduced under the Common Core Programme for Junior High Schools in Ghana for the purpose of educating the Ghanaian child holistically. The subject offers great prospects for students to engage in self-exploration, self-expression, developing mental focus, artfully using their hands to come out with something new, and managing and reducing stress to attain personal fulfilment and gratification (Ministry of Education 2020). The subject comprises four primary fields, which are (i) Design, (ii) Visual Art, (iii) Music, and (iv) Dance and Drama. When incorporated under the umbrella of CAD, these disciplines merge and enhance each other harmoniously. Notably, the Creative Art and Design curriculum is practically rich. It requires in-service specialist art teachers to handle it effectively and practically so that students can benefit and become creative, innovative, and problem solvers.

Initial Teacher Education (ITE) for art teachers in Ghana is crucial for effectively preparing teachers to teach the arts in schools. Currently, most ITE programmes in Ghana focus on general education, with little attention to the arts. This has led to a shortage of qualified art teachers, as many teachers lack the necessary skills and knowledge to teach art effectively. In response, efforts have been made to improve ITE for art teachers in Ghana. The National Council for Tertiary Education (NCTE) has developed a national framework for teacher education that includes specific guidelines for art teacher education (Ministry of Education 2017).

Additionally, some universities in Ghana (including the University of Education, Winneba and the University of Ghana) offer degree programmes in art education. However, there are still challenges in implementing effective ITE programmes for art teachers. These include limited resources and funding, a lack of qualified instructors, and inadequate facilities and equipment for teaching the arts (Ofei-Aboagye & Miezah 2017). Furthermore, there is a need for continuous professional development for in-service practising art teachers in Ghana and opportunities for collaboration and networking among art educators. These can help to enhance the quality of art education in Ghanaian schools and improve student learning outcomes.

To effectively teach the new standard-based curriculum for basic schools, there was a need to review initial teacher education to be in tandem with the basic education curriculum. Two education universities in Ghana reviewed the teacher education curriculum – the University of Cape Coast (UCC) and the University of Education, Winneba (UEW). They came up with two new models or curricula, now being implemented in colleges of education. These universities developed their curricula using the National Teacher Education Curriculum Framework (NTECF) and National Teacher Standards (NTS) as blueprints (Ministry of Education 2018). The NTECF and NTS are documents prepared by the Ministry of Education in collaboration with Transforming Teaching, Education and

Learning (T-TEL) to purposefully transform education in Ghana to cater for the nation's developmental needs and meet best practices worldwide.

It is important to note that the new initial teacher education stemming from NTECF and NTS emphasises specialisms, unlike the old curriculum that trained generalist teachers for Ghanaian basic education. In the old curriculum, a teacher was trained to teach in any class in the basic school, from kindergarten (KG1) to JHS3. However, the new curriculum has three main specialisations: Early Childhood Education, which ranges from KG1 to Primary 3; Primary Education, which takes care of Upper Primary- P4 – P6; and JHS Education for JHS 1 to JHS3. According to the NTECF, *“specialism pathways are the key to depth and breadth of knowledge of what is to be taught, connecting with the developmental level of children and consolidating content knowledge”* (NTECF P.9).

Each JHS specialisation curriculum developed by UCC and UEW further made room for subject-specific options, including art education options. However, the two curricula have treated the visual art option differently. The art education option aims to train teachers to teach specifically the JHS Creative Arts and Design curriculum. NaCCA explains that the CAD *“aims at developing individuals who are literate, good problem solvers, can think creatively and have both the confidence and competence to participate fully in the Ghanaian society as responsible local and global citizens”* (NaCCA, 2020 pp xiv).

In-service training for art teachers in basic schools in Ghana is essential for professional development to enhance their skills and knowledge in art education. According to Agbodzakey and Ngissah (2017), in-service training for art teachers is necessary to improve their teaching strategies, content knowledge, and understanding of curriculum development. They noted that in-service training helps to equip art teachers with relevant skills to implement the curriculum effectively and to be more innovative and creative in their teaching approach. However, there have been challenges with in-service training for art teachers in

Ghana. For example, there are limited opportunities for in-service training for art teachers due to inadequate funding, lack of support from school administrators, and the unavailability of training resources. Additionally, some art teachers are not motivated to attend in-service training programmes due to a lack of incentives or recognition for their efforts (Agbodzakey & Ngissah, 2017).

To address these challenges, Agbodzakey and Ngissah (2017) suggest that in-service training programmes should be designed to be more practical and relevant to the needs of art teachers. They recommend that training programmes incorporate hands-on activities, peer learning, and mentoring to enhance the effectiveness of the training. Additionally, school administrators should provide the necessary support for art teachers to attend in-service training programmes, and the government should allocate adequate resources to support the professional development of art teachers. Furthermore, it is a requirement that education colleges provide instructors for the various basic schools (Kindergarten, Primary and Junior High Schools). Students complete a three-year (six-semester) study programme that results in the awarding of a Diploma in Basic Education (DBE) by the Institute of Education at the University of Cape Coast in Ghana, which also serves as the Colleges' examination body. This credential permits newly qualified instructors to teach students between the ages of four and fifteen. The DBE programme consists of two years of on-campus coursework and a final year of practicum teaching in partner elementary schools, where pre-service generalist teachers teach every subject on the curriculum.

Heyworth (2011) lamented as he reflected on his training and teaching experience. He worked as a generalist teacher educator for thirteen years, and during the practical training session, he watched with great concern as most pre-service generalist teachers could not teach the performing arts. They feel unqualified, unmusical, or even musically challenged (Heyworth 2011; Adjepong 2018) to offer lessons to elementary school pupils. This issue worsens because these pre-service teachers are assigned to mentors (classroom teachers) who

regularly exclude the performing arts from their lessons (Boafo-Agyemang 2010; Ampeh, 2011). As a result, children are not given the best opportunities possible to learn and develop in the performing arts (Howe 2012). According to Hennessy (2000), students who are placed for practical experience are "not able to teach music," and Griffin (2014:184) observed numerous teacher candidates who displayed a lack of confidence to teach music. These point to a pattern where some pre-service generalist teachers lack the assurance or preparation to teach the performing arts.

The in-service teachers who had begun handling the subject were largely regarded as generalist teachers with little knowledge about arts education. This is because, in the past, teachers for basic schools in Ghana were trained in Colleges of Education and were largely generalist teachers. They were trained to teach many subjects simultaneously, especially the core subjects (English, Mathematics, Science and Social Studies) in the old curriculum (Opoku-Asare et al. 2015). Aside from these core subjects, the number of teachers who are specialists in elective subjects such as Creative Arts is negligible in basic schools (Boafo-Agyemang 2010), and now that Creative Arts is a core subject under the new CCP, generalist teachers are forced to teach it. The generalist teachers' inability to teach the subject presents a knowledge gap in art content and pedagogy regarding teaching and learning of art, which necessitates, in part, the aim of the current study.

2.7 GHANAIAN PROFESSIONAL DEVELOPMENT FRAMEWORK FOR TEACHERS

The Ghana Education Service (GES) has developed a professional development framework for teachers to enhance their competencies in the country (GES 2019). The framework aligns with the National Teacher Education Curriculum Framework, which outlines the key competencies teachers are expected to possess. The teacher professional development framework is designed to provide a structured approach to the continuous professional development of

teachers in Ghana (GES 2019). It is facilitated through four key components: needs assessment, design and planning, implementation, and evaluation. The needs assessment component involves identifying the professional development needs of teachers at the individual, school, and district levels. The design and planning component involves developing a comprehensive professional development plan tailored to teachers' needs. The implementation component involves delivering professional development activities, including workshops, seminars, and mentoring programmes. Finally, the evaluation component involves assessing the effectiveness of the professional development activities and using the findings to improve future programmes (GES 2019). The framework highlights the importance of collaboration among stakeholders in the professional development process, including teachers, school leaders, district officials, and other relevant organisations. It also elaborates the need for a learner-centred approach to professional development based on teachers' needs and their work context (GES 2019).

Effective methods and strategies of teaching art include using a variety of instructional approaches, providing opportunities for hands-on learning, integrating technology into lessons, encouraging creativity and self-expression, and incorporating cultural diversity into the curriculum. One effective method is project-based learning, which involves students working on a long-term project that integrates multiple disciplines and allows for creativity and critical thinking. Research has shown that project-based learning can enhance student engagement, motivation, and academic achievement in art education (Almulla 2020; Shin 2018).

Another effective strategy is using visual thinking strategies (VTS), which involves asking open-ended questions and engaging students in discussions about artwork. VTS has been found to improve students' critical thinking skills and visual literacy (Yenawine 2013). In addition, the flipped classroom model, where students learn content through online resources and then use class time for

hands-on activities, has been shown to be effective in art education (Wang & Holcombe 2010). Based on the analysis of research findings in literature reviews (Muijs et al. 2014; Muijs & Lindsay 2008; Muijs & Reynolds 2003), the utilisation of meta-analysis as a primary approach for synthesis has only become prominent in recent times. A quantitative strategy, meta-analysis integrates the findings of various studies to reach a conclusive result. A preliminary systematic examination of the available data is used to obtain the complete estimates of effect sizes.

Many meta-analysis studies have focused on teacher effectiveness factors, frequently within a larger framework of educational effectiveness. In a thorough meta-analysis of studies on the impact of education, Scheerens (2004) classified variables based on frameworks for teachers and school effectiveness through the process-product perspective. Collaborative learning, individualisation, and adaptable teaching methods, as well as task time, were found to have only small to moderate effects on student results. In contrast, factors linked to content strengthening and providing students with feedback had the greatest influence. Using homework, structured instruction, and learning opportunities produced marginal but substantial effects (Scheerens & Scheerens 2016).

Seidel and Shavelson (2007) re-analysed previously classified research using a process-product model to assess teacher effectiveness and alternative theoretical teaching and learning structures. Learning mechanisms, cognitive results, and positive psychological outcomes were all examined. It is worth noting that implementing domain-specific instructional tasks considerably affected the size and had the greatest influence on cognitive results. The activities specialised to a given domain, such as social interactions, learning time, regulation, and monitoring, had the greatest effects on motivational-affective outcomes. The biggest effects on learning processes were found in social experiences, time for learning, and domain-specific learning activities.

A meta-analysis of more than 300 in-school interventions was carried out by Marzano and colleagues using the teacher effectiveness research base as a foundation. They discovered that the interventions had a general effect size of 0.42, with primary schools seeing the greatest effects and middle and high schools experiencing the least. The researchers looked at 15 different teaching techniques. They discovered that the most powerful effects were for word building, comparing, and contrasting, interactive games, nonlinguistic representations, note-taking, student discussion and chunking, tracking student progress, and scoring scales, while the weakest effects were for summarising (Marzano et al. 2011).

In their meta-analysis of the determinants influencing student outcomes at the school and classroom levels, Kyriakides, Creemers, Antoniou, and Demetriou (2010) used the dynamic model of educational effectiveness as the conceptual framework. Teaching-related characteristics supported the dynamic model and revealed substantial but modest connections with student outcomes, whereas those not supported were insignificant. The John Hattie meta-analyses that culminated into his manuscript *Visible Learning* (Hattie 2009), synthesising more than 800 diverse meta-analyses to create a comprehensive meta-analysis of instructional solutions, are likely the most significant up-to-date meta-analysis pertinent to educator efficacy study. The results of Hattie's (2009) study, such as the meta-analysis mentioned above, largely support the general conclusion of most educational efficacy studies that classroom instruction is the most important factor influencing student outcomes. The same may be said of the variables with the largest effect sizes.

The significance of feedback, teaching space behaviour, instructor precision, educator-learner connections, collaborative learning, explicit teaching, proficiency-based learning, classroom organisation, peer guidance, practical demonstrations, and concept visualisation are only a few of the findings that support the efficacy of teachers (Hattie 2009). Both metacognitive approaches

and problem-solving abilities emerge as crucial in Hattie's evaluations of the more recent metacognitive teaching techniques. Metacognitive strategies are techniques that encourage students to develop awareness of their thinking processes as they learn (Flavell 1979). Interventions that focus on certain student populations or academic disciplines, such as repeated reading programmes, phonics education, and outdoor/adventure programmes, provide many other large impact sizes. Some of Hattie's findings, particularly the significance of grades reported by students themselves and ongoing assessment for learning, highlight gaps in comprehending teaching efficacy, raising the possibility that assessment and student reflection were downplayed in earlier studies. Effective approaches and tactics for teaching art should engage students in hands-on learning, encourage creativity and critical thinking, and provide opportunities to explore and express their ideas and cultural perspectives.

2.8 THE THEORETICAL FRAMEWORK

A review of teacher professional development models was conducted to conceptualise the Professional Development model this study proposes to answer the research questions. Based on the review of professional development models, the theoretical framework for this study is grounded in three models: the Guskey Model of teacher change (Guskey 2002), the Desimone Model of professional development (Desimone, 2009), and the ADDIE Model for instructional design (Kurt 2018). These frameworks were chosen due to their unique strengths in addressing the professional development needs of Creative Arts and Design (CAD) teachers in Ghana.

2.8.1 The Guskey Model of Professional Development

The Guskey Model of Teacher Change highlights the gradual development of teachers through the practical implementation of new learning strategies. The model is based on the idea that professional development should be designed to improve student learning, and its effectiveness should be evaluated regarding its impact on student achievement (Guskey 2002). Guskey's model focuses on

assisting educators and professional developers to recognise how changes in teacher attitudes and beliefs occur. It proposes that teacher professional development should concentrate purposefully on helping teachers to bring about changes in classroom practices, which lead to changes in student learning and eventually change teachers' attitudes and beliefs about teaching and learning. One of its key strengths lies in emphasising that teacher change typically occurs after educators witness improvements in student outcomes, thus establishing a direct link between professional development and student performance (Guskey 2002). The model advocates for a results-oriented approach to teacher training by placing student learning outcomes at the centre. Thus, the model is highly relevant for educational research. Furthermore, Guskey's model recognises the importance of organisational support in ensuring that professional development efforts lead to lasting, systemic changes in the educational environment rather than one-off improvements.

However, the Guskey Model is not without its limitations. One notable weakness is its focus on measurable outcomes, which may overlook the qualitative shifts in teacher attitudes or the more subtle improvements in teaching practices. These aspects are critical to understanding the full impact of professional development but are often difficult to quantify. Additionally, the model assumes that teacher motivation will naturally increase as student outcomes improve, which may not always hold true. External factors, such as teacher workload, stress, or lack of personal development opportunities, can also influence a teacher's motivation, regardless of student success.

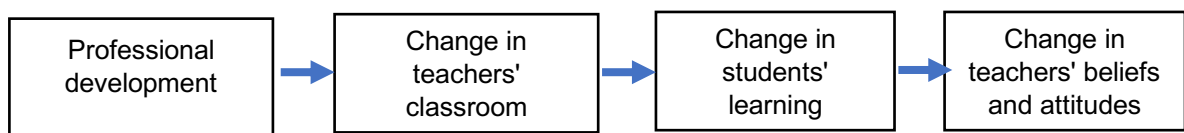


Figure 2.1: Guskey's path model of teacher change (Guskey, 2002)

In the context of this study, the Guskey Model is highly relevant as it helps establish a clear link between the professional development of Creative Arts and

Design (CAD) teachers and subsequent improvements in student performance. The study focuses on enhancing teaching methods and fostering creativity among CAD teachers, making it essential to observe how this training impacts classroom outcomes. Additionally, the model's emphasis on teachers' attitudes toward student success supports the long-term growth necessary for sustaining meaningful changes in teaching practices, which is central to this study's goal of advancing the quality of creative arts education in the Sagnarigu Municipality. The model's strength in fostering results-driven change aligns well with the desired outcomes of this professional development programme.

2.8.2 Desimone Model of Professional Development

The Desimone Model of Professional Development focuses on several key elements that are essential for effective teacher training: content focus, active learning, coherence, duration, and collective participation (Desimone 2009). Desimone's model deals with the research community and, within that, evaluators, arguing her model should be used in "studies designed to describe trends, associations, or impacts of professional learning on knowledge instruction, and student achievement" (Desimone 2009, p.183). Thus, the Desimone Model of Professional Development is a framework for evaluating the effectiveness of professional development programmes based on the idea that effective professional development is directly linked to improved student learning.

One of the model's major strengths is its focus on ensuring that professional development is contextually relevant and interactive, enabling teachers to link training directly to their daily work. This is particularly beneficial for Creative Arts and Design (CAD) teachers, as they require training that is aligned with the practical, artistic aspects of their subject matter. Another strength of the Desimone Model is its encouragement of collective participation, fostering peer learning and the development of professional learning communities (PLCs). This collaborative approach is invaluable for CAD teachers who can exchange artistic

teaching strategies and experiences, which helps to enhance their instructional practices.

Additionally, the model underscores the importance of ongoing support and feedback, which is vital for ensuring that professional development leads to long-term improvements in teaching methods. Rather than relying on one-off training sessions, the Desimone Model advocates for continuous professional growth, making it suitable for sustained improvements in teaching practices.

Despite its strengths, the Desimone Model does have some limitations. Its focus on the duration and intensity of professional development can be challenging to implement, especially in resource-limited settings like some schools in Ghana. Time and resources are often constrained, making it difficult to provide the long-term, immersive professional development the model advocates for. Furthermore, the model assumes that all teachers have access to the same support systems and resources, which might not always be the case in less-resourced schools, where access to materials and mentorship is limited. Although Desimone's model seems to be comprehensive and addresses the impact of professional development on teaching and learning, it does not lay down an action plan as to how to evaluate professional development or how "Increased teacher knowledge and skills; changes in attitudes and beliefs", "Change in instruction" and "Improved Student Learning" can be achieved. These can only be regarded as outcomes or purposes of PD.

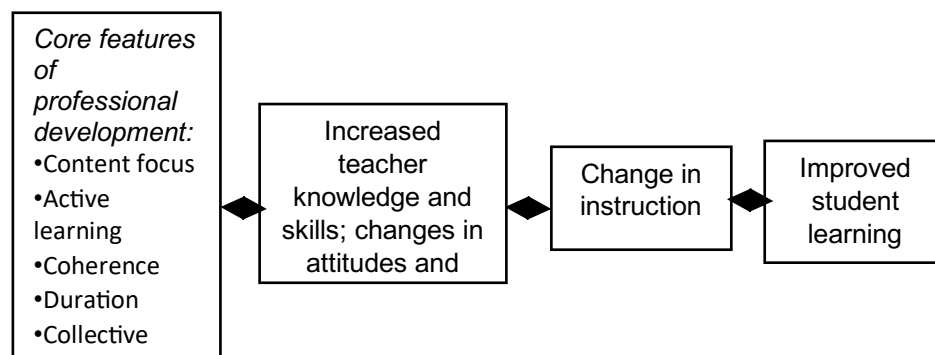


Figure 2.2: Desimone's model of professional development, (2009)

The Desimone Model is especially appropriate in this study because it promotes interactive learning and aligns professional development with the specific needs of CAD teachers and their local context. Given that many CAD teachers lack specialised training, a structured professional development programme that emphasises collaborative learning and active engagement with arts-based teaching methods is essential. The model's focus on coherent and continuous training also aligns with the need to support the new CAD curriculum in Ghana to ensure that teachers receive the ongoing support necessary to implement creative and effective teaching strategies in the classroom.

2.8.3 The ADDIE Model of Instructional Design

The ADDIE Model for Instructional Design offers a comprehensive and structured approach to developing professional development programmes. The model, which is composed of five phases—Analysis, Design, Development, Implementation, and Evaluation—ensures that training programmes are carefully designed and implemented to meet the specific needs of participants (Molenda 2003). The analysis phase entails conducting a needs assessment, identifying learning objectives, and analysing the characteristics of the learners and the learning environment. The design phase involves developing the instructional strategy, including selecting content, media, and methods of instruction. In the development phase, instructional materials and resources are created based on the design phase. The implementation phase involves the delivery of instruction to learners and then the evaluation phase is for assessing the effectiveness of the instruction and identifying areas for improvement. This implies that to have an effective instructional model, you must first analyse or perform a needs assessment before designing or planning what to do. The next thing is to design and develop the programme and then implement it. Lastly, you need to evaluate the instruction or the programme to see if it works or has an impact.

One of the main strengths of the ADDIE model is its systematic approach, which guarantees that each phase is meticulously planned to make sure that the content and structure are relevant to the participants, such as Creative Arts and Design (CAD) teachers in this study. ADDIE's Model, a structured approach to instructional design, has been widely used in developing professional development programmes in art education (Branch, 2009; Ramila et al. 2019; Fan, 2021). The model ensures that the learning objectives are aligned with the learners' needs and the programme's goals. Additionally, the evaluation phase of the ADDIE model is particularly important, as it provides a mechanism for measuring the effectiveness of the program. This is critical not only for understanding how the training impacts teacher performance but also for assessing improvements in student outcomes, ensuring that the professional development programme achieves its intended goals.

Despite its strengths, the ADDIE model does have some limitations. Some scholars have criticised the ADDIE Model for its linear approach and lack of flexibility in accommodating changes that may arise during the implementation phases (Gustafson & Branch 2002). Furthermore, one of its primary challenges is that it can be resource-intensive, requiring significant time and effort for each phase. This can be particularly challenging in time-constrained educational settings, where there may be limited resources or availability for extended training programs. Additionally, the model can be seen as process-heavy, with a rigid structure that may not be flexible enough to accommodate different teaching styles or the real-world constraints faced by some educators.

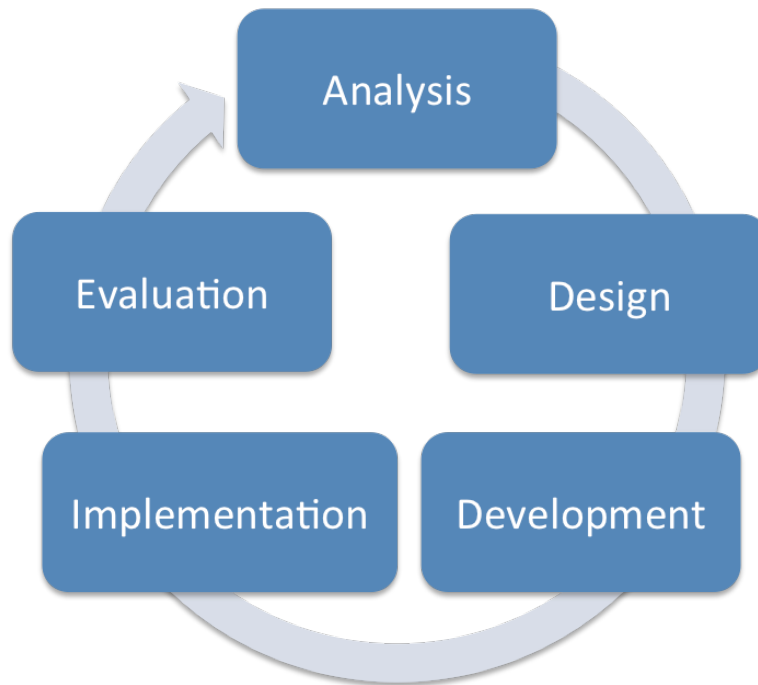


Figure 2.3: The ADDIE Model of Instructional Design, 2018

Despite these limitations, the ADDIE Model remains a valuable tool for designing and implementing effective professional development programmes in art education and other fields. In the context of this study, the ADDIE model provides the necessary structure to systematically design, implement, and evaluate the professional development program for CAD teachers. The focus on evaluation is also aligned with the goals of this study, which seeks to assess the effectiveness of the professional development program in improving teaching skills and student outcomes in the Sagnarigu Municipality.

The integration of the Guskey, Desimone, and ADDIE models offers a well-rounded framework for this study. While the Guskey model emphasises the link between teacher development and student outcomes, the Desimone model focuses on collaborative, context-relevant professional development, and the ADDIE model provides a structured approach to programme design and evaluation. Though each model has its limitations, their combined use in this study offers a balanced and comprehensive approach that addresses the specific

needs of CAD teachers to ensure that the professional development programme is both effective and sustainable.

CHAPTER THREE: METHODOLOGY

As indicated in Chapter One, the main rationale for conducting this study was to equip Ghanaian generalist teachers who teach Creative Arts and Design with the requisite skills and strategies through an inclusive professional development programme, to enable them to teach the subject without difficulty. Therefore, this chapter provides a comprehensive overview of the research framework, aligning with the pragmatic research paradigm. It highlights an action science methodology, rooted in practical application, and a mixed-method approach to ensure a holistic understanding of the research topic. The discussion begins by elaborating on the pragmatic paradigm's philosophy, which is well-suited to the study's focus on developing a Professional Development (PD) programme for generalist teachers. The core of the chapter delves into action science as the underlying research methodology, known for its practical problem-solving and iterative improvement. A mixed-method approach is subsequently introduced, highlighting the distinct phases of the study and their purposes. Each phase is described in detail, including the data collection methods, procedures, and quality assurance measures. Furthermore, the chapter underlines the ethical considerations governing the study, focusing on principles such as anonymity, confidentiality, and informed consent. In conclusion, the chapter asserts that the pragmatic paradigm, action science methodology, and mixed-method approach collectively provided a robust framework for the study, aligning with its goals of developing and assessing the impact of the PD programme for CAD teachers in the Sagnarigu Municipality.

3.1 DESIGN OF THE STUDY

The design of this study encompassed the methodological framework and structure adopted to address the research questions and objectives effectively. In this study, the design played a crucial role in guiding the implementation of the professional development programme and evaluating its impact on teachers and students. The design was shaped by various factors, including the research

paradigm, methodology, sampling techniques, data collection methods, and analysis procedures. Firstly, the research paradigm of pragmatism guided the approach of the study, emphasising practicality and utility in addressing real-world problems (Creswell & Creswell 2018). Pragmatism allows researchers to draw on multiple perspectives and methodologies, aligning with the study's mixed-methods approach (Morgan 2014). By combining qualitative and quantitative methods, the study captured both the breadth and depth of the research topic, providing a comprehensive understanding of art teacher professional development (Johnson & Onwuegbuzie 2004).

The methodology of action science further informed the design by emphasising collaborative and participatory approaches to research (Argyris et al. 1985). Action science encouraged active engagement with stakeholders, including teachers, administrators, and education experts, throughout the research process. This collaborative approach ensured that the professional development programme was tailored to the needs and preferences of art educators in Ghana, enhancing its relevance and effectiveness (Reason & Bradbury 2008). In terms of sampling techniques, the study, on one hand, used census in the quantitative aspect of the study and, on the other hand, employed purposeful sampling to select participants for the other phases of the research. This approach allowed the researcher to target specific groups of interest, such as CAD teachers with varying levels of experience or qualifications. By purposively selecting participants based on predetermined criteria, the study ensured that the sample represented the diversity of the target population, enhancing the generalisability of the findings.

Data collection methods, such as surveys, interviews, observations, and focus group discussions, were carefully chosen to gather comprehensive and reliable data on art teacher professional development. Surveys provided quantitative data on teachers' qualifications, perceptions, and experiences, while interviews and observations offered deeper insights into their perspectives and practices during

the professional development sessions (Creswell 2017). Document analysis complemented these methods by examining existing curriculum materials and reports related to art education in Ghana. Finally, data analysis procedures involved systematic coding, categorisation, and interpretation of the collected data (Braun & Clarke 2006). Quantitative data was analysed using descriptive statistics to identify the number of teachers who did not have the requisite qualifications to teach Creative Arts and Design, while qualitative data underwent thematic analysis to uncover underlying themes and insights. The study ensured the reliability and validity of its findings by triangulating data from multiple sources, thereby strengthening the general rigour of the research design.

3.1.1 Research Paradigm of the Study

As indicated in the design of this study, the most appropriate paradigm to guide the current study to achieve its aim and objectives was pragmatism. The notion of pragmatism was originally introduced by Charles Sanders Peirce in the 1870s and subsequently elaborated upon by William James and John Dewey (McCaslin 2008). The objective of the philosophers who formulated pragmatism was to establish a method for grasping the authenticity and importance of any action by evaluating the tangible impacts it exerts on people's daily lives (Biesta 2021; Mackenzie & Knipe 2006). Thus, at the heart of pragmatism lies the concept of truth, where proponents of this philosophy contend that truth is unveiled through the assessment of what is effective and contextually relevant (McCaslin, 2008). Thus, the philosophy of pragmatism also supports the idea that knowledge and truth are not fixed but rather contextual and situational. This means that what is considered true in one situation or context may not be applicable or relevant in another. Pragmatists embrace this relativity and emphasise the importance of adapting research methods and findings to fit the specific needs and circumstances of the research context (Mackenzie & Knipe 2006).

The pragmatic paradigm is a research paradigm that focuses on the practical application of knowledge and the usefulness of research findings (Creswell 2014).

In this paradigm, the researcher's ontology, epistemology, axiology, and methodology are all guided by a commitment to producing knowledge that is relevant to real-world problems and situations. Regarding ontology, pragmatic researchers often adopt a multiple-reality perspective, which recognises the existence of multiple socially constructed realities that may be different for different individuals or groups (Tashakkori & Teddlie 2003). According to Morgan (2007), a pragmatic ontology assumes that there is no objective reality that can be known independently of our actions and interpretations. Instead, reality is created through our social interactions and interpretations (Mackenzie & Knipe 2006).

Epistemologically, pragmatic researchers view knowledge as a tool for solving practical problems and improving the quality of life (Creswell 2014). They emphasise the importance of using multiple sources of evidence and a variety of methods to gather and analyse data, in order to produce findings that are robust and useful for real-world applications. According to Creswell (2014), pragmatic researchers adopt a mixed methods approach, which involves using both qualitative and quantitative methods to gather data and answer research questions. Axologically, pragmatic researchers recognise the importance of value neutrality and objectivity in research but also acknowledge that research is conducted within a social context and is influenced by researchers' values and perspectives (Creswell 2014). According to Guba and Lincoln (1994), pragmatic axiology recognises that values are inherent in all research and cannot be separated from the research process. Instead, researchers should be transparent about their values and biases and use them to inform their research questions and interpretations.

In terms of methodology, pragmatic research often involves the use of mixed methods, which allow researchers to gather data from multiple sources and perspectives and triangulate findings for increased reliability and validity (Tashakkori & Teddlie 2003). According to Creswell (2014), pragmatic

researchers also emphasise the importance of collaboration and partnership with stakeholders, such as practitioners, policymakers, and community members, in order to ensure that research findings are relevant and useful for real-world applications.

In the context of the current study, pragmatism aligns with the focus on practical outcomes and solutions. This paradigm focuses on the importance of acting and evaluating the effectiveness of that action based on the desired outcomes. It is not concerned with abstract concepts or ideas but rather with practical applications and their effects in the real world. As such, the pragmatist paradigm stresses the importance of flexibility and adapting to changing circumstances to achieve the desired outcomes. The pragmatic paradigm was therefore chosen for the current study based on its focus on practical outcomes and its emphasis on acting and evaluating its effectiveness. This paradigm aligns with the research objectives of the current study and features flexibility and adaptability in achieving the desired outcomes.

3.1.2 Action Science as a Research Methodology

Action science is a research methodology that focuses on collaboration and the active involvement of participants in the research process. Kurt Lewin developed the approach in the 1940s, and it has since been further developed and refined by researchers such as Chris Argyris, Donald Schön, and Edgar Schein (Reason 2001). At its core, action science is concerned with the application of knowledge and the practical use of research findings. The aim is to create actionable insights and strategies that can be implemented in real-world settings. The methodology is designed to be participatory, with researchers working closely with participants to identify and address real-life problems.

One of the key features of action science is its emphasis on reflection and learning. Researchers work collaboratively with participants to analyse data and evaluate the effectiveness of interventions, with the goal of continuous

improvement and learning. This approach is grounded in the idea of "double-loop learning", which involves not only addressing specific problems but also reflecting on and challenging underlying assumptions and values (Argyris & Schön 1974, cited in Anderson 1997). Action science also reiterates the importance of building relationships and ensuring trust between researchers and participants. This requires researchers to be open and transparent about their goals and methods and to be willing to collaborate with participants in all aspects of the research process (Schein 2010).

The methodology of action science is highly adaptable and can be applied in a range of contexts, from organisational development to community-based research. The approach has been used to address a wide range of issues, including environmental sustainability (Bradbury & Reason 2008), healthcare improvement (Berwick 2008), and organisational change (Schein 2010). One of the challenges of action science is ensuring that research findings are generalisable beyond the specific context in which they were generated. However, proponents of the methodology argue that the emphasis on collaboration and participation can actually increase the generalisability of findings by ensuring that they are grounded in real-world experiences and practical applications (Bradbury & Reason, 2008).

Action science was chosen as the most appropriate methodology for this study due to its participatory and collaborative nature, which is well-suited to professional development. This approach underlines the reflection and practical application of new teaching strategies, making it ideal for enhancing Creative Arts and Design (CAD) education in real-world settings. Additionally, action science ensures that by actively involving CAD teachers in the process, the insights they gain directly apply to their classroom practices. While there may be challenges related to generalizability, the focus on collaboration and continuous improvement enhances the relevance of the findings, as they are grounded in the participants'

lived experiences. This allows for developing actionable strategies that can lead to meaningful and sustainable improvements in teaching practices.

3.1.2.1 Conducting Action Science Research

Action science research is a participatory research methodology that focuses on identifying and solving problems in organisational settings through collaborative and reflective action. The following are the steps in conducting action science research:

1. Problem identification: The first step in action science research is to identify the problem or issue that needs to be addressed. This can be done through observation, interviews, and focus groups with members of the organisation (Argyris et al. 1985).
2. Collaborative diagnosis: Once the problem has been identified, the research team works collaboratively with members of the organisation to diagnose the problem and identify potential solutions. This process involves reflection, dialogue, and the sharing of perspectives and experiences (Bradbury & Reason 2006).
3. Action planning: Based on the diagnosis, the research team and organisational members develop an action plan that outlines the steps to be taken to address the problem. This plan should be realistic, achievable, and aligned with the organisation's goals and values (Coghlan & Brannick 2014).
4. Implementation: The action plan is put into action, and data is collected to assess the effectiveness of the plan. This data can be collected through observation, interviews, surveys, and other methods (Coghlan & Brannick 2014).
5. Reflection and learning: As the plan is implemented, the research team and organisational members reflect on the process and outcomes. This reflection allows for continuous learning and improvement and helps to ensure that the action plan is aligned with the organisation's values and goals (Bradbury & Reason 2006).

6. Evaluation: At the end of the process, the effectiveness of the action plan is evaluated. This evaluation involves assessing the outcomes of the plan, as well as the process used to implement it (Coghlan & Brannick 2014).
7. Dissemination: The findings and outcomes of the action science research are disseminated to the relevant stakeholders, including organisational members, policymakers, and the wider research community. This dissemination helps to promote learning and inform future action (Reason 2001).

How the foregoing steps are applied in the current research is demonstrated in Table 1.

Table 1: Steps in conducting Action Science research

Steps		Application of each step in the study
1	Problem identification	Insufficient CAD teachers in Sagnarigu Municipality
2	Collaborative diagnosis	Quantitative survey of all 137 CAD teachers and focus-group discussion with some headteachers on the current state of CAD education
3	Action planning	Liaising with CAD experienced art educationists and professionals to plan PD programme
4	Implementation	Implementation of PD programme with 22 CAD teachers
5	Reflection and learning	Member reflection during and after the PD programme
6	Evaluation	Finding out the success or otherwise of the PD session
7	Dissemination	Publishing the research for benefits of stakeholders

3.2 THE RESEARCH METHODS

The study employed mixed methods, and the utilisation of mixed methods is a distinct research methodology in and of itself. According to Creswell and Creswell (2017), a mixed-methodologies research design encompasses distinct philosophical assumptions and methods of investigation. As a research methodology, it encompasses underlying philosophical assumptions that guide the process of gathering and analysing data from many sources within a singular

study. In certain research studies, researchers opt for a mixed-methods approach, combining quantitative and qualitative data collection techniques. This approach offers a more comprehensive and multifaceted understanding of the research topic (Creswell & Creswell 2017). The data collection procedure in a mixed-methods study expounds on how quantitative and qualitative data will be collected, integrated, and subsequently analysed to address the overarching research questions (Creswell & Creswell 2017). This comprehensive approach empowers researchers to harness the strengths of both quantitative and qualitative methodologies, yielding a richer and more nuanced perspective on their research inquiries.

The utilisation of a mixed-methods design presents several advantages for addressing intricate research problems, as it combines the philosophical underpinnings of post-positivism and interpretivism (Fetters 2016). In integrating qualitative and quantitative data in a cohesive manner, this strategy enables a comprehensive and relevant elucidation of research concerns. Additionally, it provides a sound theoretical basis, allows for methodological adaptability, and facilitates a comprehensive understanding of individual instances (Maxwell 2016). In essence, using mixed methods allows researchers to effectively address study inquiries with substantial comprehensiveness and depth (Enosh et al. 2014) while also facilitating the generalisation of findings and consequences pertaining to the investigated matters to the entire community. The utilisation of a quantitative technique enables researchers to gather data from a substantial number of participants, hence enhancing the potential for generalising the findings to a broader population.

In contrast, the qualitative approach offers a more indepth comprehension of the matter under investigation, valuing the perspectives and experiences of its participants. In essence, quantitative data contributes to the breadth of the investigation, while qualitative data enhances its depth. Furthermore, the integration of quantitative findings with qualitative data, and vice versa, allows for

triangulation of results. Triangulation, as a qualitative research methodology, involves the use of many methodologies or sources of data to establish a thorough comprehension of a study issue or to assess the validity of findings by means of the convergence of information from diverse sources (Creswell & Clark 2011; Creswell 2021). A mixed-approaches design is the most advantageous approach for addressing research inquiries as it combines the respective strengths of two methods while simultaneously mitigating their individual limitations (Johnson & Onwuegbuzie 2004). According to Saville (2012), mixed-method study designs are increasingly relevant in addressing impact research concerns.

The current study employed mixed-method research to achieve the research objectives outlined in Chapter One. The mixed methods approach, which includes both quantitative and qualitative data collection methods across the four phases of the study, enabled the researcher to thoroughly assess the impact and effectiveness of the professional development programme for CAD teachers in junior high schools in the Sagnarigu Municipality. It emphasised action science research, where teachers actively contributed to constructing knowledge and improving their teaching practices, making it a valuable approach for enhancing art and design education. The study design was structured according to phases based on the steps in conducting action science research which was captured earlier in this chapter. Steps 1 and 2, which are problem identification and diagnosis, respectively, constituted Phase One (Needs Analysis) for this study. Step 3, which is action planning in action science research, constituted Phase Two (Design Phase). Steps 4 and 5, comprising implementation and reflecting in action science, together constituted Phase 3 (Implementation) for this study. Evaluation, which is Step 6 under action science, served as Phase Four (Evaluation) for this study. These four phases of the study are elaborated below.

Phase One: Analysis

Objective: The initial phase of the study is centred on analysing the existing qualifications and perceptions of CAD teachers within the Sagnarigu Municipality, as well as headteachers' perceptions of teaching CAD as a new subject.

Methods: In this phase, structured questionnaires were employed as the primary data collection tool. These questionnaires gathered quantitative data concerning the qualifications of teachers, including details on their degrees and certifications. Furthermore, they captured the initial perceptions and attitudes of these educators towards the teaching of CAD. In addition, semi-structured interviews were conducted with headteachers to find out their views about teaching the new subject.

Phase Two: Design

Objective: The second phase aimed to harness the expertise and experiences of art educationists from colleges of education. The goal was to collaboratively design a professional development (PD) session that was tailor-made to address the specific needs of CAD teachers.

Methods: During this stage, meetings or focus groups were organised with art educationists. These sessions served as platforms for co-designing the PD session. Art education experts were encouraged to share their valuable insights, best practices, and areas where they perceived the need for additional training.

Phase Three: Implementation

Objective: Phase three of the study was dedicated to the actual execution of the planned PD sessions. These sessions were conducted through a series of workshops crafted for CAD teachers.

Methods: The key methods employed during this phase revolved around workshops. These workshops were rooted in the design forged during phase two.

These workshops offered participants a hands-on training experience, involving practical exercises and opportunities for teachers to apply the knowledge and skills they had gained. Additionally, the researcher carried out observations throughout the workshop sessions, resulting in the collection of field notes. These observations helped in assessing the effectiveness of the training and the level of engagement exhibited by participants.

Phase Four: Evaluation

Objective: The final phase was dedicated to assessing the impact of the PD sessions on CAD teachers and their teaching practices.

Methods: To achieve this objective, a two-fold approach was employed. Firstly, questionnaires were administered to teachers following the completion of the PD sessions. These surveys collected quantitative data regarding changes in the participants' skills, confidence levels, and alterations in their teaching practices. Secondly, follow-up qualitative interviews were conducted. These interviews delved deeper into teachers' experiences during and after the training. Participants were encouraged to share their perspectives on what aspects of the training worked effectively and what areas required further refinement and improvement. Together, these methods provided a comprehensive evaluation of the PD programme's impact on CAD teachers and their professional development.

3.2.1 Data Collection Methods

Data collection methods encompass the techniques and instruments utilised to acquire data from participants or sources in a research study. Commonly employed data collection methods encompass surveys, interviews, observations, and document analysis (Creswell & Creswell 2017). The selection of an appropriate data collection method is contingent on the research objectives and the study's inherent nature. For instance, surveys are well-suited for amassing quantitative data from a sizable sample, whereas interviews facilitate an in-depth exploration of participants' perspectives (Creswell 2021).

In certain research studies, including the current study, researchers opt for a mixed-methods approach, combining quantitative and qualitative data collection techniques. This approach offers a more comprehensive and multifaceted understanding of the research topic (Creswell & Creswell 2017). This comprehensive approach empowers researchers to harness the strengths of both quantitative and qualitative methodologies, yielding a richer and more nuanced perspective on their research inquiries. The data collection methods employed in the current study are discussed below.

3.2.2 Questionnaires

Questionnaires, consisting of structured surveys with a set of standardised questions for participants to respond to, are valuable tools. They are particularly useful for collecting quantitative data from many participants (Creswell & Creswell 2017). In the context of the present study, questionnaires were employed to collect data on CAD teachers' qualifications, perceptions, and expectations in the first phase and feedback regarding the Professional Development (PD) programme in the evaluation phase.

3.2.3 Focused-Group Discussions and Interviews

Interviews entail direct one-on-one or group conversations between researchers and participants. They are instrumental in collecting qualitative data as they provide an opportunity for in-depth exploration of participants' perspectives (Creswell & Creswell 2017). The Researcher conducted focused-group discussions using semi-structured interviews with headteachers during the first phase to find out their views about the teaching of CAD in their schools. Also, participating CAD teachers were interviewed to gain profound insights into their experiences with the PD programme and how it has influenced their teaching practices. Semi-structured interviews allow flexibility for participants to share their experiences and insights while ensuring that specific research questions are

addressed. The interviews were guided by a set of open-ended questions related to the study objectives.

3.2.4 Observation

Observation involves the systematic observation and recording of events or behaviours in a natural setting. Field notes are written, recording the observations that document details about what is observed (Yin 2018). Observation comes in different forms, namely, non-participant observation, semi-participant observation and full-participant observation.

In non-participant observation, the researcher remains an outsider, observing the events without directly interacting with the participants (Creswell 2014). This type of observation allows for an objective assessment of behaviour and interactions, as the researcher does not influence the group's dynamics. During the workshops and meetings, the researcher quietly observed how CAD teachers engaged with workshop content, noting their level of participation, engagement with peers, and responses to the training. He did so without becoming involved in the activities in some instances. In addition, while distributing questionnaires to the schools, the researcher noticed that some CAD teachers delivered lessons theoretically rather than using practical, hands-on methods, which was unexpected in an arts-based subject.

Semi-participant observation involves the researcher interacting with participants to a limited extent while still primarily focusing on observing the situation (Yin 2018). This method is useful when the researcher needs to gain a better understanding of the group dynamics or clarify behaviours without becoming a full participant. In this study, in some instances, the researcher shifted to a semi-participant role. This approach allowed the researcher to participate minimally while still maintaining the focus on observation. For example, during group discussions in the workshops, the researcher occasionally asked probing questions to clarify the teachers' understanding of CAD concepts but refrained

from leading the discussions. The goal was to gain insights into how teachers interpreted and applied the workshop content.

In full-participant observation, the researcher is deeply involved in the group's activities, participating as a member while making observations (Creswell 2014). This method allows for an immersive experience and can provide rich, detailed data about group behaviour. In most parts of the CAD workshops, the researcher acted as a facilitator or a co-participant to gain firsthand insights into how the teachers responded to the workshop exercises, providing a deeper understanding of group dynamics and learning outcomes. The researcher could experience the practical challenges teachers face when teaching CAD by engaging directly with them. This immersion provided the researcher with a firsthand understanding of the complexities involved in integrating practical art lessons into the curriculum.

3.2.5 Document Analysis

Document analysis entails the review and examination of existing documents, records, or artefacts, such as curriculum materials, reports, or student work (Creswell & Creswell 2017). In this study, document analysis was employed to scrutinise curriculum materials and reports relevant to the performance of CAD students both before and after their participation in the PD programme. These documents were the Creative Arts and Design Curriculum for Junior High Schools in Ghana, Creative Arts and Design Textbooks as well as Teacher's Guides to the textbooks.

3.2.6 Workshops

Workshops can be a unique data collection instrument when structured activities and discussions are involved. These sessions allow participants to share their experiences and perspectives (Creswell & Creswell 2017). As part of the data collection procedure, the researcher conducted workshops where CAD teachers could provide feedback and reflections on the PD programme. This interactive

setting allows for a rich qualitative data collection that can complement other methods.

3.3 STUDY SETTING, TARGET GROUP AND SAMPLING APPROACH

3.3.1 Study Setting

The study was conducted in the Sagnarigu Municipality, situated in the middle part of the Northern Region of Ghana, which was established in 2012 by the enactment of Legislative Instrument 2066, separating it from the Tamale Metropolis. In 2018, the Municipality was granted the status of a municipality by the enactment of Legislative Instrument 2272. The geographical coordinates of the location in question are situated within the longitudinal range of 0057" N to 00 57" W and the latitudinal range of 9016" N to 9034" N. The municipality possesses a land area of approximately 114.29 square kilometres. The municipality in question exhibits geographical proximity to many administrative divisions. Specifically, it is adjacent to the Savelugu Municipal in the northern direction, the Nanton District in the north-eastern direction, the Tamale Metropolis in the southern and eastern directions, the Tolon District in the western direction, and the Kumbungu Municipal in the northwestern direction.

Based on the findings of the 2020 Population and Housing Census, it has been determined that the Sagnarigu Municipal area is home to a population of approximately 341,711 people. This population is further divided into two main categories: males, who account for 170,199 individuals or 49.8% of the total population, and females, who make up 171,512 individuals or 50.2% of the total population. Furthermore, the Sagnarigu Municipal area has experienced a growth rate of 3.1% per annum. The municipality comprises a total of 73,653 dwellings, each characterised by an average household size of 4.5 individuals.

The Sagnarigu Municipal area comprises a total of 84 communities, which can be categorised into three distinct types: urban, peri-urban, and rural. Specifically, there are 33 urban communities, 24 peri-urban communities, and 27 rural

communities within the municipality. The Municipality serves as a central location for several educational institutions throughout the region. These include two universities, two colleges of education, one TVET institute, four public senior high schools, 76 junior high schools, 129 elementary schools, and 124 kindergartens.

In Ghana, each district, municipality or metropolis has an education directorate. The primary responsibility of the Education Directorate is to effectively execute the mission of the Ghana Education Service and ensure the successful implementation of the curriculum. The Directorate has been tasked with the mission of ensuring the provision of high-quality education, promoting access to education, and ensuring equitable distribution of school facilities. The Education Directorate of a municipal assembly plays a key role in developing and executing education policies within the Assembly in accordance with national policies and guidelines. The entity also assumes an advisory function within the Assembly with respect to basic and secondary education. Each education directorate has been divided into circuits, ostensibly to make management of the educational system easy and smooth. Sagnarigu Municipality has eleven (11) education circuits, namely Choggu, Gumani-Nyanshegu, Fuo, Kamina A, Kamina B, Kumbungu Road, Mile Nine, Nyankpala Road, Sagnarigu North, Sagnarigu South and Tishigu circuits.

According to data obtained from the statistics department of the Sagnarigu Municipal Education Directorate by the researcher, there were a total of 1,354 teachers in all 76 Junior High Schools in the municipality, teaching the 12 subjects of the new curriculum. Out of that number, 137 are Creative Arts and Design teachers while the remaining 1,217 teachers teach the other 11 subjects, though in some cases, a teacher teaches two or more subjects (see Appendix E). The new curriculum known as the Common Core Programme (CCP) comprises of twelve (12) subjects of study namely English Language, Mathematics, Social Studies, Science, Career Technology, Religious and Moral Education,

Computing, Ghanaian Language, French Language, Arabic, Physical Education and Health, and Creative Arts and Design (NaCCA 2020).

3.3.2 Population and Sample

The broad group of individuals from which a sample is taken is referred to as the population (Welman et al. 2005). According to Creswell (2014), the population is the entire group of study participants to which the research findings are intended to apply. The aggregate of the units from which the sample is drawn is, therefore, the study population, while the entire number of people that the researcher is interested in makes up the target population (Sekaran & Bougie 2016).

To conduct research and/or obtain data on teachers in Ghana, a researcher needs to write formally to the education directorate of the district, municipality, or metropolis in which the study is to be conducted. Therefore, the researcher, first of all, wrote an official letter to the Municipal Director of Education of the Sagnarigu Municipality to seek data on the total number of Junior High School teachers and specifically the number of CAD teachers in the municipality. Further, a formal letter was written to the Municipality Director of Education of the Sagnarigu Municipality seeking permission to conduct the study with the teachers in the municipality. Permission was granted, and the director advised the researcher to discuss with the headteachers of the schools to map out how the study would be conducted with the teachers.

3.3.3 Sampling and Sample Size

Onwuegbuzie and Collins (2007) defined a sample as a portion of the population encompassed within a study. The sampling process entails choosing cases that hold substantial information for an extensive examination, aiding the researcher in gaining familiarity with the intrinsic aspects of the issue under investigation while not mandating the extension of findings to all comparable instances (McMillan & Schumacher 2010). In essence, sampling involves the selection of a subset from a larger group to stand for the whole group or the target population.

Sampling decreases the duration required to finish a study, reduces expenses, is manageable, enhances precision, and closely resembles the target population (Cooper & Schindler 2014).

The selection of participants and study samples was based on the appropriateness of the phase and the requirements of the study's questions. Thus, the main feature of selecting this study's participants was based on the participants' willingness to be equally involved in the study. Fraenkel & Wallen (2008) agree with that opinion by stating that the main condition for selecting study participants is their voluntary involvement in the study. Further discussion is based on the phases of the study.

Regarding Phase One, which utilised quantitative and qualitative approaches, census sampling, on one hand, was used to select 137 CAD teachers as respondents to answer questionnaires regarding their abilities and perceptions of the Creative Arts and Design (CAD) teaching in the Sagnarigu Municipality. The selection of 137 CAD teachers as respondents, utilising a census sampling approach, is a well-justified method to ensure the representativeness of the study. This is because it ensured comprehensive coverage, high representativeness, elimination of sampling error, equal opportunity for all respondents and an accurate snapshot of the population.

The reason why census sampling ensures comprehensive coverage is that census sampling aims to include every member of the population in the study (Babbie 2013). In this case, the entire population of CAD teachers in the Sagnarigu Municipality, which consists of 137 individuals, was surveyed. This ensured that every eligible teacher had an equal chance to participate, eliminating the potential for selection bias. The sample also ensures high representativeness in the sense that by surveying the entire population, the sample represents the true characteristics, attitudes, and perceptions of all CAD teachers in the municipality. This approach offered the highest level of representativeness

possible (Babbie 2020). Therefore, the findings from this sample can be confidently generalised to the entire population of CAD teachers in Sagnarigu.

Also, census sampling eliminates the potential for sampling error, which is a common concern in other sampling methods (Trochim & Donnelly 2006). Sampling error refers to the difference between sample statistics and population parameters. In this case, there is no need to estimate or extrapolate findings because the entire population is surveyed. This implies that each CAD teacher in the municipality has an equal opportunity to participate in the survey, ensuring fairness and reducing the risk of bias. This aligns with principles of fairness and equity in research (Guest et al. 2006). Finally, census sampling provides an accurate snapshot of the population during the study (Babbie 2020). This is valuable for understanding the current state of CAD teaching and perceptions in the Sagnarigu Municipality.

On the other hand, purposive sampling was used to select the headteacher from each of the 11 circuits to participate in focus group discussions regarding the implementation and teaching of CAD in their various schools. The findings of this qualitative aspect of phase one were used to triangulate the data gathered under the quantitative aspect of this phase. The focus group discussions also discovered in-depth concerns regarding the implementation and teaching of CAD as a new subject.

Under Phase Two, purposive sampling was used to select five experienced educationists to provide input into how the PD was to be implemented. These individuals, who are art tutors in two Colleges of Education in the Sagnarigu Municipality, were chosen based on their extensive experience in teaching art education to teacher trainees for at least ten years. The selection of these experts was further justified by two additional factors. Firstly, their involvement in the programme's design was deemed essential because they also served as instructors assisting the researcher during the implementation phase of the PD.

Secondly, the complexity inherent in designing PD programmes to enhance CAD teachers' pedagogical skills warranted their expertise. It was anticipated that these experts would make significant contributions to designing an efficacious PD programme, thereby validating its structure and content.

The study employed purposive sampling because expert knowledge is crucial to the Design phase. This is because the primary objective of Phase Two was to design a comprehensive, effective and inclusive Professional Development (PD) programme tailored to the needs and requirements of Creative Arts and Design (CAD) teachers for implementation. This phase involved tapping into the expertise and insights of specialists or experienced educationists who could provide valuable guidance on the design of the PD programme. To achieve this goal, it was essential to gather inputs and recommendations from experienced educationists in the field of art education and professional development. Therefore, purposive sampling was used in this regard. Purposive sampling is a non-random, non-probability sampling technique used when researchers aim to select participants who possess specific characteristics, expertise, or knowledge relevant to the research objectives (Palinkas et al. 2015). In this case, purposive sampling was employed to select a panel of experienced educationists who have a deep understanding of art education and professional development. The choice to employ purposive sampling was grounded in the understanding that expert knowledge is critical for the success of the Design phase. These experienced educationists brought with them a wealth of experience, theoretical insights, and practical recommendations that could significantly enhance the quality and effectiveness of the PD programme.

The researcher ensured that the PD programme was tailored to address the specific needs, challenges, and objectives of CAD teachers by involving experienced educationists in the design process. These experienced educationists provided guidance on curriculum development, teaching methodologies, assessment strategies, and other essential components of the PD

programme. The insights and recommendations provided by the expert panel contributed to the relevance and effectiveness of the PD programme. They helped to align the programme with current best practices in art education and ensure that it meets the unique requirements of CAD teachers in the Sagnarigu Municipality.

Under Phase Three, the study used purposive sampling to select 22 CAD teachers from the 137 respondents who took part in answering the survey questionnaire under Phase One to participate in the series of PD sessions. The sample of 22 teachers was arrived at by selecting two teachers from each of the 11 circuits in the municipality. The phase employed purposive sampling because the selection was based on the responses given during the survey, as well as resource constraints. Additionally, data saturation was considered to guarantee that the selected sample size would be sufficient to capture a comprehensive range of perspectives and experiences relevant to the study's objectives. The inclusion criterion was a CAD teacher who had never had training in art or had no certification in art education.

The calculation of 22 CAD teachers to participate in the professional development (PD) sessions in Phase Three of the study was justified based on several factors, including the research objectives, the nature of the population, and the principles of purposive sampling. Firstly, the primary objective of Phase Three was to implement the PD sessions for CAD teachers based on their responses in Phase One. The goal was to provide targeted training to those who indicated a lack of prior art training or certification in art education. Therefore, the sample size of 22 teachers was determined with this specific objective in mind. Again, purposive sampling is a non-probability sampling technique used when researchers seek to select participants based on specific criteria that align with the research goals (Palinkas et al., 2015). In this case, the criteria were clear: selecting CAD teachers who lack prior training or qualification in art education.

Also, the study involved a population of 137 CAD teachers who responded to the survey questionnaire in Phase One. Within this population, the objective was to identify and select a sub-sample of teachers who met the inclusion criteria, which is the absence of formal art training or certification in art education. The sample of 22 CAD teachers was selected in a manner that ensures representation from each of the 11 circuits in the municipality, with two teachers chosen from each circuit. This approach ensured geographical representation, acknowledging that the municipality may have diverse characteristics or needs regarding professional development. Finally, the sample size of 22 was also influenced by practical considerations such as the availability of resources, time constraints, and the logistics of organising PD sessions. It struck a balance between obtaining valuable insights from participants and the manageable implementation of the PD programme.

Phase Four used the same sample as in Phase Three to evaluate their experiences and the outcome of the PD through questionnaires, workshop interactions and reflections as well as interviews. In Phase Four of the study, the primary objective was to evaluate the experiences and outcomes of the Professional Development (PD) programme that was designed and implemented in earlier phases. This phase sought to gather feedback and insights from participants, including CAD teachers and experts in art education, to assess the effectiveness of the PD programme. This phase also represented the evaluation phase of the research, where the focus shifted to assessing the impact and effectiveness of the PD programme that was implemented in Phase Three. This phase aimed to gather data to determine whether the PD sessions met their intended goals and whether they positively influenced the teaching practices and perceptions of CAD teachers.

To maintain continuity and consistency, Phase Four involved the same sample of participants who were engaged in Phase Three of the study. This ensured that the study's findings were based on the experiences and feedback of those who

directly participated in the PD programme and aligned with the principle of longitudinal research. Data was collected through various methods to obtain a comprehensive understanding of participants' experiences and perceptions. These methods included questionnaires, workshop interactions and reflections, and interviews. By combining both quantitative and qualitative data from the same sample of participants, the study aimed to gain comprehensive insights into the PD programme's impact. This mixed-methods approach allows for a deeper understanding of the experiences, changes in teaching practices, and perceptions of CAD teachers. The use of the same sample for both quantitative and qualitative data collection ensures a holistic evaluation of the PD programme, encompassing both quantitative metrics and qualitative narratives.

Sample Size Breakdown:

The overall sample size for the study was 175 participants, which included the following components:

- **137 Participants for Quantitative Aspect:** This group consists of CAD teachers who completed the survey questionnaire in Phase One. They provided quantitative data through questionnaires regarding their experiences with the PD programme.
- **5 Experienced Art Educationists:** These art educationists were purposively selected in Phase Two to contribute to the design of the PD programme. Their expertise was invaluable in assessing the programme's effectiveness and relevance.
- **33 Participants for Qualitative Aspect:** This group was composed of 11 headteachers who participated in the focused group discussions and CAD teachers who met specific inclusion criteria and were selected in Phase Three to participate in the PD sessions. They provided qualitative data through focused group discussions, workshops, interactions, reflections, and interviews.

3.4 DATA COLLECTION PROCEDURE

The data collection procedure in a mixed-methods study should expound on how quantitative and qualitative data will be collected, integrated, and subsequently analysed to address the overarching research questions (Creswell & Creswell 2017). The data collection procedure delineates how data will be systematically gathered, outlining the involved steps, the sequence of activities, and a defined timeline (Yin 2018). It furnishes a comprehensive plan for numerous facets, including participant recruitment, procurement of informed consent, administration of data collection instruments, and mechanisms for preserving data integrity. For instance, in the context of surveys, the procedure should explicate how participants will be approached, the distribution methodology for surveys, and the process for collecting and securely storing responses (Yin 2018).

Vouchsafing data quality stands as a pivotal concern in research endeavours. It necessitates implementing measures aimed at mitigating errors, minimising biases, and rectifying inaccuracies in the data collection process. Examples of these measures encompass utilising validated survey instruments, executing pilot tests, and deploying trained interviewers, all of which serve to enhance data quality (Creswell & Creswell 2017). Additionally, the procedure should encompass a discussion of ethical considerations, notably informed consent, confidentiality safeguards, and participant anonymity, all of which are instrumental in preserving the rights and well-being of research participants (Yin 2018). In this study, the data collection procedure was crucial across its four distinct phases. The following delves into the comprehensive data collection process tailored for each of these phases, ensuring the systematic acquisition of valuable information for the study.

Phase One: Analysis

The primary objective of Phase One was to scrutinise the qualifications and initial perceptions of CAD teachers and headteachers within the Sagnarigu Municipality. The selected data collection methods for this phase were structured

questionnaires and focused-group discussions. These questionnaires were designed to gather quantitative data pertaining to CAD teachers' qualifications, such as art qualifications, certifications, and teaching experience. On the other hand, the focused-group discussions aimed to capture the headteachers' viewpoints on strengths, challenges, and areas requiring improvement as far as teaching CAD is concerned. The data collection procedure for the quantitative aspect involved the creation of a comprehensive questionnaire and administered to CAD teachers in the Sagnarigu Municipality. The researcher went to each of the 76 junior high schools and distributed the questionnaires to the CAD teachers after introducing himself to the headteacher and presenting a copy of the permission letter from the Municipal Director. It was vital to ensure the clarity of instructions, provide participants with a reasonable timeframe for completion, and maintain the anonymity and security of collected data. With regard to the focus-group discussions, the researcher, during the administration of the questionnaires in the various schools, took the opportunity to select one headteacher from each circuit and invited each to a focus-group discussion at the Municipal Education Directorate, which is a central location for all headteachers invited. Specific dates and times were communicated to the selected headteachers so that the focus-group discussions would be successful. The seats were arranged in a horseshoe formation such that the researcher could see every participant while sitting in front of them. Semi-structured interview schedules guided the discussions to help participants stay focused on the discussions on the emerging issues, challenges, and perceptions regarding the implementation and teaching of CAD as a new subject.

Phase Two: Design

The focus of Phase Two was to leverage the expertise and experiences of art educationists from colleges of education to design a tailored PD session for CAD teachers. The primary data collection method for this phase included meetings or focus groups with art education experts. These discussions provided a platform for the art educationists to collaboratively share their insights and best practices

and identify areas where additional training was needed for CAD teachers. The data collection procedure started with the identification and contact of art education experts. Meetings or focus group sessions were scheduled and conducted. During these sessions, valuable insights were gathered regarding the specific needs of CAD teachers regarding professional development. The recommendations and insights provided by these experts were carefully documented for reference in the subsequent implementation phase.

Phase Three: Implementation

Phase Three focused on executing the planned PD sessions through a series of workshops for CAD teachers. The principal data collection method for this phase was the conduct of PD workshops. These workshops offered hands-on training, practical exercises, and opportunities for participants to apply the knowledge they acquired. Additionally, field notes were taken to observe the effectiveness of the training and the level of participant engagement. The data collection procedure entailed utilising the previously designed PD programme to structure the workshops. The content was closely aligned with the identified needs of CAD teachers, as suggested by the art education experts. Workshops were then scheduled and organised, considering the convenience of the CAD teachers. Field notes were taken to record participants' interactions, feedback, engagement, and any challenges observed during the workshops. Continuous assessment ensured that the workshops proceeded as planned, with adjustments made based on the participants' responses and needs.

Phase Four: Evaluation

The final phase, Phase Four, was dedicated to evaluating the impact of the PD sessions on CAD teachers and their teaching practices. Two primary data collection methods were employed: questionnaires and interviews. Questionnaires were administered to teachers' post-PD sessions to collect quantitative data regarding changes in their teaching skills, confidence, and practices. Simultaneously, interviews were conducted to delve deeper into the

participants' experiences, with a particular focus on what worked well and areas needing improvement. The data collection procedure necessitated the creation of comprehensive questionnaires to quantify the PD programme's impact. These questionnaires were administered to CAD teachers who participated in the PD sessions, with instructions and a reasonable timeframe of two weeks for completion. Subsequently, follow-up qualitative interviews provided deeper insights, with a focus on teachers' experiences and their perspectives. Data from questionnaires and interviews were analysed to evaluate the effectiveness of the PD programme in enhancing the teaching practices of CAD teachers.

3.5 DATA ANALYSIS

Data analysis in research is the systematic process of examining and interpreting collected data to derive meaningful insights, patterns, and conclusions. It plays a pivotal role in transforming raw data into valuable information that can inform research objectives and address research questions (Creswell & Creswell 2018). Various data analysis methods are employed depending on the research design and the nature of the data collected. One common data analysis method is descriptive statistics, which involves summarising and presenting data in a clear and understandable manner. Descriptive statistics can be used to calculate measures such as frequencies, percentages, means, and standard deviations. This method provides a quantitative overview of the data, making it accessible for interpretation (Neuman 2012).

Another widely used method is qualitative analysis, which is employed when dealing with non-numerical data such as text, transcripts, or observations. Qualitative analysis involves the systematic examination of this textual or visual data to identify emerging themes, patterns, and narratives. Researchers often use coding techniques to categorise and organise qualitative data (Creswell & Creswell 2017).

Mixed-methods analysis is another approach that combines both qualitative and quantitative methods. Researchers employing mixed methods integrate findings from both types of data to provide a comprehensive understanding of the research problem (Creswell & Creswell 2017). In research, data analysis is a crucial step that contributes to the validity, reliability, and trustworthiness of research findings. The choice of data analysis method depends on the research questions, the type of data collected, and the overall research design. In the current study, the researcher employed mixed methods analysis to provide a comprehensive understanding of the research problem and to achieve the stated objectives of the study. Consequently, the data were analysed according to the four phases of the study.

Phase One: Analysis Phase

In the initial phase of the study, Phase One, the primary focus was to gain a comprehensive understanding of the abilities and perceptions of CAD teachers and headteachers' views on teaching CAD within the Sagnarigu Municipality's schools. To achieve the objectives of the study, the researcher employed a data analysis approach centred on descriptive statistics for the questionnaires obtained from CAD teachers and thematic analysis for the focused-group discussions involving the selected headteachers.

Descriptive Statistics

Descriptive statistics serve the purpose of organising, summarising, and presenting data in a meaningful and comprehensible manner. Through this approach, the researcher aimed to provide an insightful overview of the participants' abilities and perceptions related to CAD teaching. The data collected through the administration of questionnaires was presented utilising frequencies and percentages. This method entails counting the number of responses falling within each predefined category and subsequently expressing these counts as a percentage of the total number of respondents. This approach facilitated a clear understanding of the distribution of responses, allowing the researcher to discern

the prevailing trends and patterns as far as the qualifications, abilities and perceptions of the CAD teachers were concerned. The data was then interpreted by identifying common trends, patterns, and variations discernible within the collected responses. For example, the researcher uncovered the proportion of CAD teachers possessing specific qualifications, gained insights into their initial perceptions regarding CAD teaching, and identified any noteworthy differences that may exist among the respondents. Through interpretation, the researcher aimed to distil valuable insights to pave the way for the subsequent phases of the research.

Thematic Analysis

The thematic analysis procedure involved several systematic steps (Braun and Clarke 2006) to ensure that the data were thoroughly examined and meaningful themes were identified. The following outlines the detailed steps taken in the thematic analysis process.

Step 1: Data Familiarisation

The first step in the thematic analysis involved becoming deeply familiar with the data. The researcher began by transcribing the focus group discussion interviews with the headteachers. This transcription process was meticulous, ensuring that all verbal and non-verbal cues were captured. Following transcription, the researcher read through the entire data set multiple times to gain a comprehensive understanding of the content. Notes were made on initial impressions and recurring ideas that emerged from the headteachers' discussions.

Step 2: Generating Initial Codes

Once familiarisation with the data was achieved, the next step was to generate initial codes. Coding involved identifying significant pieces of information within the data that were relevant to the research questions. The researcher used manual coding techniques by using Excel spreadsheets and to systematically go

through the transcriptions. Each segment of data that represented a meaningful unit was assigned a code. For example, discussions around the lack of qualified teachers were coded under terms like "teacher shortage" and "qualification issues".

Step 3: Searching for Themes

After coding the data, the researcher began to search for themes. Themes are broader patterns that capture significant or interesting aspects of the data related to the research questions. This step involved organising the initial codes into potential themes. The researcher reviewed the coded data extracts and grouped them into overarching themes that represented key issues discussed by the headteachers. For instance, codes related to "teacher shortage," "lack of specialised training," and "recruitment challenges" were grouped under the theme "Lack of Qualified Teachers".

Step 4: Reviewing Themes

In the fourth step, the researcher reviewed and refined the identified themes to ensure they accurately represented the data. This involved two levels of review: first, checking that the themes coherently fit the coded data extracts, and second, ensuring that the themes accurately reflected the complete data set. Some themes were merged, others were broken down into sub-themes, and some were discarded if they did not have enough supporting data. In all, eight (8) themes were identified and considered for analysis, discussion and interpretation. The researcher also re-read the entire data set to verify that the themes captured the essence of the headteachers' discussions.

Step 5: Defining and Naming Themes

Once the themes were reviewed and refined, the next step was to define and name them. This involved clearly describing what each theme represented and determining the scope and focus of each theme. The researcher wrote detailed descriptions of each theme, outlining the narrative and key issues highlighted by

the headteachers. Naming the themes involved creating concise and descriptive titles that encapsulated the essence of each theme. For example, the theme "Lack of Qualified Teachers" was defined as encompassing all discussions around the challenges in recruiting, retaining, and training CAD teachers.

Step 6: Producing the Report

The final step in the thematic analysis was to produce a report that presented the themes in a coherent and compelling manner. This involved writing a detailed narrative that illustrated the themes with direct quotes from the headteachers to provide evidence and support for the findings. The report was structured to guide the reader through the thematic analysis process, explaining how each theme was developed and what it revealed about the headteachers' experiences and perspectives. The use of quotes ensured that the headteachers' voices were accurately featured, adding authenticity and depth to the analysis.

Phases Two and Three: Design and Implementation

For the data analysis procedure in phases two and three of the study, the researcher employed a structured thematic analysis approach. In phase two, the primary data were collected from meetings and focus groups with art educationists. The researcher transcribed these discussions, ensuring that all verbal and non-verbal cues were captured. This was followed by a thorough familiarisation process, where the researcher repeatedly read through the transcriptions to grasp the full scope of the data. Initial coding was then conducted, where meaningful units of information were identified and labelled with relevant codes. These codes were subsequently organised into potential themes that encapsulated broader patterns related to the design of the professional development (PD) sessions. The themes were reviewed and refined to ensure they accurately represented the data, and each theme was defined and named to reflect its essence. The researcher then produced a detailed report, using direct quotes from the art educationists to illustrate the key findings.

In phase three, the implementation phase, data were gathered through observations and field notes during the PD workshops. The researcher began by transcribing the observational data and notes, followed by a similar familiarisation process as in phase two. Initial codes were generated from the data, focusing on significant events, behaviours, and interactions observed during the workshops. These codes were then grouped into themes highlighting critical aspects of the workshop implementation, such as participant engagement, practical application of skills, and challenges encountered. The themes were reviewed and refined to ensure they provided a coherent representation of the workshop dynamics. The final report was produced, integrating direct observations and participant feedback to offer a comprehensive analysis of the workshop's effectiveness and areas for improvement. This structured approach allowed the researcher to systematically capture and interpret the qualitative data, providing valuable insights into the design and implementation of the PD sessions.

Phase Four: Evaluating PD Session Effectiveness

In phase four, the researcher applied a systematic thematic analysis to assess the impact of the professional development (PD) sessions on Creative Arts and Design (CAD) teachers. Data were collected through post-PD questionnaires and follow-up interviews with the teachers. The researcher began by transcribing the interview recordings and compiling the questionnaire responses. Familiarisation with the data was the next step, involving thorough reading and re-reading of the transcripts and responses to fully understand the content.

Initial coding followed, where the researcher identified significant pieces of information and assigned relevant codes to them. These codes were then categorised into broader themes that reflected recurring patterns and key insights related to the teachers' experiences and the effectiveness of the PD sessions. The themes were reviewed and refined to ensure they accurately represented the data and provided a clear understanding of the impact of the PD sessions.

The researcher then defined and named each theme to encapsulate its core meaning. To finalise the analysis, a detailed report was produced, incorporating direct quotes from the teachers to illustrate the findings. This comprehensive analysis provided a nuanced understanding of the teachers' improved skills, confidence, and teaching practices post-PD, as well as any remaining challenges and areas for further development. This structured thematic analysis enabled the researcher to systematically interpret the qualitative data, drawing meaningful conclusions about the effectiveness of the PD sessions and their impact on CAD teaching practices.

3.6 ENSURING RIGOUR IN ACTION SCIENCE RESEARCH

Ensuring rigour in action science research involves several strategies that enhance the quality of the research and its findings. These strategies include reflexivity, credibility, transferability, dependability, confirmability, reliability, validity (Bradbury & Reason 2006; Bradbury & Reason 2008). Reflexivity is the process of reflecting on one's own role and biases as a researcher and how they influence the research process and findings. This involves continuously questioning assumptions, values, and beliefs that underlie the research (Bradbury & Reason 2008). As a Creative Arts educator and researcher in Ghana, I acknowledge that my fifteen years of teaching experience and professional development participation have shaped my perspectives on arts education and teacher training needs. My position as both an insider (being a Creative Arts teacher) and an outsider (as a researcher) provides unique insights but may also influence my interpretation of participants' experiences and needs. Having experienced firsthand the challenges of implementing creative arts curriculum without adequate professional development support, I recognise that this could lead to potential bias in favouring certain types of professional development approaches. To mitigate these biases, I employed member checking, peer debriefing, and maintained a detailed reflective journal throughout the research process to ensure transparency and trustworthiness in data collection and analysis.

3.6.1 Credibility

In any research endeavour, credibility is paramount as it directly influences the trustworthiness and validity of the research findings. In the context of this study, ensuring credibility was of utmost importance. One key strategy for enhancing credibility is triangulation. This involves the use of multiple data sources, including questionnaires, interviews, field notes, and observations. By employing various data collection methods, researchers can cross-verify and validate the findings, thereby strengthening the reliability of the research outcomes.

Another crucial approach is member checking. This entails sharing the preliminary findings and interpretations with the participants themselves, in this case, the CAD teachers. By involving them in the research process and allowing them to assess whether the findings align with their own experiences and perspectives, there is a surety that the study accurately represents their voices. Peer debriefing is an additional strategy employed. This involved engaging in discussions with peers or experts in the field. Through these discussions, the researcher critically reviewed the data analysis and interpretations. This external input serves as a valuable check against potential biases and errors, further enhancing the research's credibility.

Lastly, the researcher recognised the importance of providing thick descriptions throughout this research. This means offering rich, detailed accounts of various aspects of the study. These descriptions encompass the study's context, the backgrounds of the participants, and the methods employed for data collection. By being transparent in these areas, the researcher enabled readers and reviewers to gain a comprehensive understanding of the research process, thereby contributing to the credibility of the study. Thus, credibility is a fundamental aspect of research, and it is particularly vital when examining the experiences and perceptions of CAD teachers. By implementing these strategies—triangulation, member checking, peer debriefing, and thick

descriptions—the researcher aimed to ensure that the study accurately reflects the realities of CAD teachers in the Sagnarigu Municipality, ultimately strengthening the credibility of the study’s findings.

3.6.2 Transferability

When conducting research, the goal of transferability is to assess the extent to which the study’s findings can be applied or generalised to other similar contexts. In this study, it was crucial to consider how these findings might be relevant to other junior high schools in Ghana or similar educational settings elsewhere. One effective strategy for enhancing transferability is purposeful sampling. By employing this method, the researcher carefully selected a diverse group of CAD teachers from various schools within the Sagnarigu Municipality. This diversity increases the likelihood that the findings would be applicable to similar settings, as it accounts for variations in school environments, student populations, and teaching practices.

To further facilitate transferability, the researcher provided a contextual description of the Sagnarigu Municipality and its junior high school education system. This comprehensive description offers readers a thorough understanding of the research context, enabling them to make informed judgments about the applicability of the findings to other educational settings. Additionally, the researcher employed comparative analysis. This involved comparing the research findings with related studies conducted in other regions or countries. By identifying commonalities and differences between the results of this study and those from different contexts, the researcher gained valuable insights into the generalisability of the study’s findings and the extent to which they may hold true beyond the Sagnarigu Municipality.

Therefore, ensuring the transferability of the research findings was essential to maximise the impact and relevance of the study. By implementing strategies such as purposeful sampling, contextual description, and comparative analysis, the aim

was to make the findings valuable not only to the Sagnarigu Municipality but also to other junior high schools in Ghana and similar educational settings, thereby contributing to broader educational insights.

3.6.3 Dependability

Dependability is a crucial aspect of research that focuses on the consistency and reliability of the study's findings over time. It is essential to ensure that unpredictable factors or researcher biases do not unduly influence the research outcomes. In the researcher's exploration of the experiences of CAD teachers in the Sagnarigu Municipality, establishing dependability was of utmost importance. One strategy for enhancing dependability was the maintenance of an audit trail. This involved maintaining a detailed record of all research activities, encompassing data collection methods, coding procedures, and data analysis steps. By documenting every aspect of the research process, the researcher promotes transparency and creates the potential for replication. This audit trail served as a comprehensive roadmap for any future researchers wishing to replicate the study, thus bolstering the dependability of the study's findings. Another critical approach is to establish inter-rater reliability, particularly if multiple researchers are involved in the project. This can be achieved through discussions, coding checks, or calibration sessions among the research team. By ensuring that all researchers are on the same page and interpret data consistently, researchers mitigate the risk of subjective biases influencing the results, contributing to the dependability of the findings.

Furthermore, the importance of prolonged engagement in the research context was recognised. Spending an adequate amount of time immersed in the CAD teaching environment allowed the researcher to develop a deep understanding of the context. This extended engagement not only helped in capturing a more comprehensive picture of the experiences of CAD teachers but also minimised the impact of short-term fluctuations that could otherwise introduce variability into the findings.

Dependability is, therefore, a cornerstone of rigorous research. By implementing strategies such as maintaining an audit trail, establishing inter-rater reliability, and engaging with the research context over an extended period, the researcher aimed to ensure that the study's findings remain consistent and reliable, free from unpredictable influences or biases. This commitment to dependability strengthens the integrity of this research.

3.3.4 Confirmability

Confirmability in research refers to the objectivity and neutrality of research findings, indicating that the study is devoid of researcher bias or personal values. It was a critical aspect of research integrity and was especially pertinent in this study, where the researcher investigated the experiences of CAD teachers in the Sagnarigu Municipality. One fundamental strategy for enhancing confirmability is to maintain reflexivity (Creswell 2017). Throughout the research process, the researcher continuously reflects on his/her own biases, assumptions, and perspectives. Documenting these reflections was essential as it allowed for the acknowledgement of potential researcher influence on the study. By being self-aware and transparent about his own predispositions, the researcher could take measures to minimise his/her impact on the findings, thereby promoting objectivity. Peer debriefing was another valuable approach. Engaging with peers or colleagues who were not directly involved in the research provided an external perspective. These individuals could review the findings and interpretations to ensure that they remained free from undue researcher influence. Peer debriefing served as a form of checks and balances, helping to maintain the objectivity of the research. To further enhance confirmability, the researcher employed data and source triangulation. This involved utilising multiple sources of data, such as interviews, questionnaires, and field notes. Additionally, multiple data coders or analysts were involved. By doing so, the researcher reduced the risk of individual subjectivity affecting the findings. This multipronged approach to data collection and analysis reinforced the objectivity of the research.

Lastly, member checking was implemented, as previously mentioned. By involving the participants, in this case, CAD teachers, in the review of findings, the researcher ensured that their experiences and perspectives were accurately represented. This process not only enhanced the credibility of the study but also contributed to its confirmability, as the findings were validated by those who directly experienced the phenomena under investigation. Confirmability is, therefore, a crucial aspect of research that ensures the objectivity and neutrality of research findings. By maintaining reflexivity, engaging in peer debriefing, employing data and source triangulation, and involving participants in member checking, the researcher safeguarded the confirmability of the study.

3.6.5 Validity and Reliability

The validity and reliability of the data collection methods in this study were ensured through several carefully implemented strategies. To enhance validity, the researcher employed a mixed-methods approach, combining quantitative surveys and qualitative focus-group discussions, which allowed for triangulation of data. Triangulation ensured that findings from one data source were cross-verified with another to reduce biases and strengthen the accuracy of the results (Creswell & Creswell, 2017). The instruments used, such as questionnaires and interview guides, were aligned with the research objectives and pre-tested through a pilot study to identify and address ambiguities, thereby ensuring that they effectively captured the intended data. Additionally, content validity was strengthened by consulting experts in CAD education during the development of the data collection tools to ensure that the questions reflected the realities and needs of teachers in the field.

To ensure reliability, consistent procedures were followed during data collection to minimise variability caused by external factors. For instance, all participants received the same set of instructions, and the same interview guide was used across all focus-group discussions to maintain uniformity. Furthermore,

quantitative data were analysed using standardised statistical techniques to ensure consistent interpretation of results, while qualitative data were subjected to thematic coding by multiple researchers to enhance inter-coder reliability. The researcher also documented all steps of the data collection and analysis process in detail to create an audit trail that allowed for replication and verification of the study. The study ensured that the data collected were both valid and reliable to provide a strong foundation for the interpretation of findings and subsequent recommendations.

3.7 ETHICAL CONSIDERATIONS

The ethical considerations of a research study are crucial for ensuring that the rights and well-being of participants are protected throughout the research process. Ethical guidelines and principles provide a framework for conducting research with integrity and respect for all involved. The following factors were considered:

3.7.1 Informed Consent

Informed consent is a foundational and essential ethical principle in research, ensuring that participants enter a study willingly, with full awareness and comprehension of what their participation entails (Creswell & Creswell 2017). It involves clearly and comprehensively informing participants about the study's purpose, procedures, risks, and benefits. Informed consent is rooted in the principle of respect for persons, one of the key ethical principles outlined in documents like the Belmont Report (National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research 1979). This principle asserts the autonomy and dignity of individuals, including their right to make informed decisions about participating in research.

Furthermore, informed consent goes beyond a mere signature on a form. It entails providing participants with clear, comprehensible, and complete information about the study. Participants should understand the study's purpose,

the procedures involved, potential risks and benefits, and any alternatives to participation (Creswell & Creswell 2017). One of the primary goals of informed consent is to ensure that participation is voluntary. Participants should not be coerced, pressured, or manipulated into taking part in a study. They should have the freedom to choose whether or not to participate, without fear of negative consequences (Creswell & Creswell 2017).

Informed consent also allows participants to weigh the potential risks against the benefits of participation. Researchers must be transparent about any potential risks, which might include emotional distress, breaches of privacy, or other adverse effects. Participants should also be made aware of the benefits, which could be personal (such as gaining new knowledge) or broader (such as contributing to science) (Creswell & Creswell 2017). In many countries, obtaining informed consent is not just an ethical obligation but also a legal requirement. Researchers must adhere to the relevant laws and regulations governing human subjects' research, which often include detailed guidelines on informed consent (Creswell 2021). Informed consent is not a one-time event but an ongoing process. It begins with the initial approach to potential participants and continues throughout the study. Researchers should be available to address participants' questions or concerns as they arise (Creswell & Creswell 2017). A written and signed informed consent form is a standard practice in research. This document summarises the key information discussed with participants and serves as evidence that they agreed to participate voluntarily (Creswell & Creswell 2017). In this study, CAD teachers were provided with informed consent forms explaining their voluntary participation, the nature of data collection, and their right to withdraw at any time without consequences.

Obtaining informed consent was a critical aspect of this study. Participants were provided with detailed information about the research objectives, procedures, potential risks, and benefits before their participation. This was done through a written consent form, which clearly stated the purpose of the study and

emphasised that participation was voluntary. Participants were informed of their right to withdraw from the study at any point without any consequences. During the consent process, particular attention was given to ensuring that participants fully understood the information provided. This was achieved by explaining the study in simple, clear language and offering opportunities for participants to ask questions for clarification. Teachers and headteachers were assured that their decision to participate or decline would not affect their professional standing or relationships within the school system. This approach aligned with ethical research principles, as outlined by Creswell and Creswell (2017), which emphasises respect for participants' autonomy and rights.

3.7.2 Confidentiality

Safeguarding participants' privacy and confidentiality is a critical ethical consideration in research, particularly in the context of this study on professional development for CAD teachers in Ghana. Participants' privacy and confidentiality must be safeguarded (Creswell & Creswell 2017). This includes protecting their identities and ensuring that their responses are not disclosed to unauthorised individuals. Respecting participants' privacy and confidentiality is a manifestation of the ethical principle of respect for persons. It highlights the idea that individuals have the right to keep personal information private and that researchers must honour this right (Creswell & Creswell 2017). Ensuring privacy and confidentiality is closely linked to trust. When participants trust that their personal information will be protected, they are more likely to provide honest and candid responses during data collection. This, in turn, contributes to the entire quality and validity of the research findings (Creswell & Creswell 2017). It is imperative to safeguard participants' identities in research. This includes using pseudonyms or codes to replace participants' real names and any identifying information, such as school names or locations. By doing so, you shield individuals from potential harm or repercussions related to their participation (Creswell & Creswell 2017).

Depending on the nature of a study and the level of confidentiality required, a researcher may consider anonymity for participants. Anonymity means that even the researcher cannot link specific responses to specific individuals. This provides the highest level of privacy protection (Creswell & Creswell 2017). To protect confidentiality, researchers must ensure the secure storage of data. This includes using password-protected files, encrypting sensitive data, and limiting access to authorised personnel only. Data should be stored for the minimum duration necessary and then securely destroyed (Creswell & Creswell 2017). Since confidentiality is a critical aspect of research, especially when dealing with sensitive information about participants, the current study on the professional development programme for CAD teachers achieved and maintained confidentiality through several key measures.

The researcher ensured that all electronic data, including survey responses and interview recordings, were encrypted and stored in secure digital environments. The researcher used strong passwords and access controls to limit who could view or manipulate the data. Researchers restricted access to research data and documents to authorised personnel only. Only those individuals directly involved in the research process had access to the data. Researchers also established clear data use agreements with any collaborators or team members who had access to the data. These agreements outlined the responsibilities and expectations regarding data confidentiality. When communicating with participants, especially through email or other digital platforms, the researcher used secure and encrypted channels and informed participants about the importance of using secure methods for communication.

The researcher included a section in the informed consent process where participants explicitly agreed to the terms of data confidentiality and explained how their data was to be used, stored, and protected. The researcher regularly backed up the data and ensured that the backup copies were stored securely. This helped prevent data loss and maintained the confidentiality of the

information. The researcher also addressed any confidentiality concerns raised by participants during the research and promptly took necessary actions to rectify any breaches. Physical documents or materials, such as signed consent forms, were stored securely in locked cabinets or safes to ensure the confidentiality and security of data. The researcher trained other research team members and collaborators on the importance of confidentiality and the specific measures in place to protect participant data while raising awareness about the ethical and legal obligations related to data privacy. In addition, participants' personal information, such as names and schools, was anonymised by assigning unique identification codes. This ensured that individual responses could not be traced back to specific participants.

3.7.3 Anonymity

Creswell and Creswell (2018) explained that anonymity constitutes a paramount ethical concern in research endeavours, particularly in studies involving human participants. In the context of the current research, the preservation of anonymity assumes critical importance as it ensures the privacy and confidentiality of the participants. Anonymity, in this context, signifies that individual participants cannot be discerned from the collected data, thus instilling a sense of security and promoting candid responses. One effective strategy to uphold anonymity was the assignment of unique participant codes to each CAD teacher participating in the current study. These codes were generated randomly, devoid of any personally identifiable information, and served as surrogates for actual names, allowing the researcher to reference participants in data collection and analysis without compromising their identities.

Furthermore, in conducting this study, it was imperative for the researcher to abstain from collecting extraneous identifying information during the data collection phase. The focus was exclusively on gathering data directly pertinent to the current research objectives. This entailed refraining from acquiring names, addresses, contact details, or any other personal identifiers. In instances where

participants were required to provide informed consent, the researcher ensured that the consent forms only contained essential information for the research, devoid of personally identifiable details. These forms were securely stored to prevent unauthorised access, further fortifying the confidentiality of participants' identities. Prior to embarking on data analysis, the researcher conducted a comprehensive review of the collected data to identify and eliminate any potentially identifying information. This process entailed scrutinising for indirect identifiers, such as specific school names or distinctive particulars that could potentially lead to the identification of individual participants.

When presenting findings or statistics, the researcher aggregated the data to a level where individual responses could not be ascertained. Instead of reporting outcomes for each participant, the researcher presented group averages or percentages. This practice preserved anonymity while facilitating data interpretation. Continuous vigilance was essential in monitoring the research process for potential breaches of anonymity. If inadvertent disclosure of identifying information occurred, the researcher took prompt corrective actions to rectify the situation, thus preserving the confidentiality of participants' identities.

3.7.4 Voluntary Participation

The involvement of individuals in research should be based on their own free will, without any form of coercion or undue influence (Creswell & Creswell 2014). It is imperative to explicitly emphasise that engagement in the study is completely optional. The principle of voluntary participation is a crucial ethical factor in research, as it guarantees that subjects make a conscious decision to participate in a study without any external influence or manipulation. Within the framework of this study pertaining to professional development initiatives for CAD instructors in Ghana, the researcher presented an elaborate elucidation of the significance of this ethical tenet.

The ethical principle of respect for autonomy amplifies the significance of voluntary participation since it upholds individuals' right to exercise independent decision-making (Creswell & Creswell 2017). The principle asserts that individuals should be seen as autonomous agents who possess the ability to make informed decisions regarding their participation in research. The principle of non-coercion and absence of undue influence also ensures voluntary participation. It is imperative that participants are not coerced or subjected to undue influence in order to secure their participation in a study. Coercion is defined as the utilisation of threats or intimidation, whereas undue influence encompasses the provision of excessive rewards or other persuasive tactics that undermine the capacity for autonomous decision-making (Creswell & Creswell 2017). The current research, therefore, did not coerce or present undue influence to make participants take part in the study.

In the context of research, a crucial aspect of upholding the principle of voluntary participation involves the acquisition of informed consent from those who choose to participate in the study (Creswell & Creswell 2017). The concept of informed consent, as elaborated above, entails the provision of individuals with explicit and thorough knowledge regarding the aim, processes, potential dangers, benefits, and their prerogative to withdraw from the study at any point without facing any adverse repercussions. The present study, therefore, made everything concerning the research clear to participants. Participants were informed that they possess the autonomy to withdraw from the study at any juncture, without incurring any detrimental repercussions (Creswell & Creswell 2017; Yin 2018). Individuals were not apprehensive about facing adverse consequences when they chose to decline or discontinue their involvement.

In the present study, researchers clearly and transparently conveyed to participants that their involvement was fully voluntary. This information was explicitly outlined in the informed consent document and consistently reinforced during all engagements with participants. According to Creswell and Creswell

(2017), it is important to provide a clear explanation that non-participation in a certain activity or study would not result in any negative effects and that participants who opt not to partake in the study will not encounter any adverse consequences or disadvantages stemming from their decision (Creswell & Creswell 2017). Individuals should not experience a sense of obligation to participate in the study because of apprehension regarding potential missed chances or advantages. Therefore, the researcher ensured the absence of discriminatory practices against individuals who chose not to partake. According to Creswell and Creswell (2017), it is imperative to treat all individuals, irrespective of their choice to engage or abstain, with equity and dignity.

Throughout the study process, the researcher consistently monitored and evaluated the extent to which participants were engaging in voluntary participation. If any indications of coercion or pressure became apparent, the researcher promptly implemented corrective measures. By adhering to the principle of voluntary participation, the researcher upheld the ethical standards of respect for autonomy and protected the rights and well-being of CAD teachers who chose to participate in the study. This ensured that their involvement was based on their own free will and informed decision-making.

3.7.5 Beneficence and Non-Maleficence

The ethical principles of beneficence and non-maleficence require researchers to maximise participant benefits and minimise harm (Creswell & Creswell 2017). In other words, it prioritises study participant welfare and harm reduction in research. The current study demonstrated the enormous benefits professional development would have for CAD teachers by focusing on CAD teachers' professional improvement, giving teachers important knowledge, skills, and tools to improve their teaching methods that would benefit students (Creswell & Creswell 2018). This would go a long way to give teachers new opportunities, boost job satisfaction, and enhance their teaching.

According to Creswell (2012), the principle of non-maleficence also requires researchers to take precautions to protect participants. Therefore, researchers must identify and mitigate risks before implementing professional development (PD) through risk assessment. Risks or issues for CAD teachers, including time constraints, mental stress, and unintended consequences, were assessed to find a panacea before the beginning of the programme (Creswell & Creswell 2017). The researcher also ensured ongoing monitoring and feedback during the programme to ensure quick resolution of issues that could endanger the participants or hinder the effectiveness of the programme. In all cases, potential risks or discomforts were minimised to ensure that the PD programme was designed to benefit CAD teachers.

3.7.6 Ethics Review and Approval

Ethics Review and Approval is a crucial ethical consideration in research, and it plays a significant role in ensuring the protection and well-being of research participants. Ethics review and approval involve the impartial assessment of research protocol by an ethics review board or committee (Yin 2018; Creswell & Creswell 2017). This external evaluation ensures that the study design, procedures, and ethical considerations meet established standards and guidelines. The primary purpose of ethical review is to protect research participants (Creswell & Creswell 2014). Review boards carefully evaluate the potential risks and benefits of a study, ensuring that participants are not exposed to undue harm or discomfort.

Ethics review boards assess the adequacy of participants' informed consent process and the measures in place to ensure voluntary participation (Creswell & Creswell 2017). They ensure that participants are provided with clear, comprehensive information and that their decision to participate is entirely voluntary. The protection of participants' privacy and confidentiality is also scrutinised during ethics review (Creswell & Creswell 2017). Review boards ensure that data collection, storage, and dissemination procedures safeguard

participants' identities and responses. Thus, in the current study, the ethics review committee of the College of Human Sciences of the University of South Africa (UNISA) did a thorough evaluation of the potential risks associated with this study. They offered external evaluation to ensure that this study design, procedures, and ethical considerations meet established standards and guidelines before giving ethical approval for the researcher to conduct the study. They reviewed this study's ethical clearance application thoroughly and suggested changes to some aspects of the application before they finally gave an ethical approval certificate for the researcher to continue with the study.

The application process involved submitting a detailed research proposal outlining the study's objectives, methodology, data collection instruments, and ethical considerations. Particular emphasis was placed on how participants' rights, including informed consent, confidentiality, and anonymity, would be upheld throughout the research process.

The ethics review committee reviewed the proposal to ensure that the study complied with ethical research standards, as outlined by national guidelines and international frameworks such as the Belmont Report. The approval process required the researcher to address potential risks to participants, including psychological discomfort during interviews or focus group discussions, and to outline strategies to mitigate these risks. Upon demonstrating that the study met these ethical requirements, approval was granted, and the researcher proceeded to engage participants.

The researcher faced several challenges in adhering to ethical guidelines during the study. One significant issue was ensuring that participants fully understood the consent process. Some teachers and headteachers were initially uncertain about the purpose of the research and how their responses would be used. To address this, the researcher conducted additional sessions to clarify the study's objectives, emphasising the voluntary nature of participation and their right to

withdraw at any time. Focus group discussions also posed confidentiality risks, as participants openly shared their experiences in group settings. The researcher mitigated this by encouraging participants to treat all discussions as confidential and by carefully anonymising data during analysis.

Another challenge involved maintaining anonymity in smaller schools, where the limited number of CAD teachers increased the risk of indirect identification. To address this, the researcher aggregated data during analysis and avoided referencing specific schools. Resource constraints also posed difficulties in finding private and comfortable spaces for interviews and group discussions, requiring collaboration with headteachers to secure suitable venues. Additionally, some participants hesitated to provide candid feedback due to concerns about potential repercussions. The researcher reassured them of strict confidentiality and emphasised the importance of their feedback in improving professional development programmes. These challenges highlighted the need for flexibility and proactive measures to uphold ethical standards in educational research.

CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS

Chapter Four serves as a critical component of this study and focuses on the detailed presentation and analysis of the data collected first during the Problem identification, Collaborative diagnosis and Action planning stages towards the implementation phases of the professional development (PD) programme for Creative Arts and Design (CAD) teachers. This chapter systematically presents the quantitative and qualitative data obtained from multiple sources, including pre- and post-programme surveys, focused-group discussions, workshop observations and participant interviews. The structure of this chapter is designed to align with the study's objectives. It first provides a comprehensive analysis of needs assessment questionnaires of CAD teachers' qualifications and preparedness as well as focused-group discussions with headteachers on the state of CAD teaching, which sought to provide a baseline for the design and implementation of the PD programme. Next, the design, implementation and evaluation of the PD programme's impact on CAD teachers' proficiency in content delivery, pedagogical strategies, and technology integration are presented. As such, the quantitative data encompasses needs assessment questionnaire results, self-assessment scores, confidence levels, and the adoption rates of new teaching practices, which offers measurable insights into the improvements made by the participants. Whereas the qualitative data drawn from focused-group discussions and interviews provided deeper insights into the state of creative arts and design teaching, the teachers' experiences, perceptions, and reflections on the PD programme.

Sections 4.1 and 4.2 present the findings from the Needs Analysis Phase, detailing the initial gaps in teachers' skills and the specific areas identified for improvement. These sections highlight the baseline data collected before the implementation of the PD programme, setting the context for subsequent analysis. Section 4.3 focuses on the data collected during the Design Phase, illustrating how the PD programme was tailored to address the identified needs.

It includes feedback from experienced art educationists on the relevance and applicability of the training materials and resources provided. Section 4.4 provides a presentation and analysis of the PD programme Implementation Phase, which draws on action and reflection as the main principles of Action Science. The Action Science objective of creating a community of enquiry within a community of practice is put in practice through workshops and meetings. This section captures the dynamics of the workshops and the levels of engagement and participation among teachers. This presents the hands-on activities and collaborative efforts that characterised the training sessions, supported by quantitative metrics and qualitative feedback. Section 4.5 is dedicated to the Evaluation Phase, where the impact of the PD programme is assessed. This section presents the significant improvements in teaching skills, confidence levels, and the adoption of new pedagogical practices. Comparative analysis of pre- and post-programme data is conducted to quantify the effectiveness of the training. Additionally, the section discusses changes in student engagement and learning outcomes as reported by the teachers.

4.1 QUANTITATIVE DATA RESULTS – OBJECTIVE ONE

Out of the 137 questionnaires distributed to CAD teachers, 106 were answered and returned. This resulted in a response rate of approximately 77.37%, indicating a relatively high level of engagement among the participants. The substantial response rate provided a robust dataset for analysis, thereby enhancing the reliability of the research findings.

4.1.1 Section A: Demographic Data of Respondents

This section presents the demographic data pertaining to the respondents of the quantitative aspect and objective 1, which sought to analyse the abilities, qualifications, and preparedness of CAD teachers for teaching CAD as well as their perceptions of the subject.

Table 1: Summary Statistics of Demographic Data					
		Gender	Age	Teaching Experience	School Location
N	Valid	106	106	106	106
	Missing	0	0	0	0

Table 1 is the summary statistics of valid respondents with regard to the gender, age, and teaching experience in terms of the number of years as well as the location of the schools they teach. As seen in the table, the total number of valid respondents is 106 with 0 missing data in all four categories. This implies that no respondent omitted any of the demographic questions.

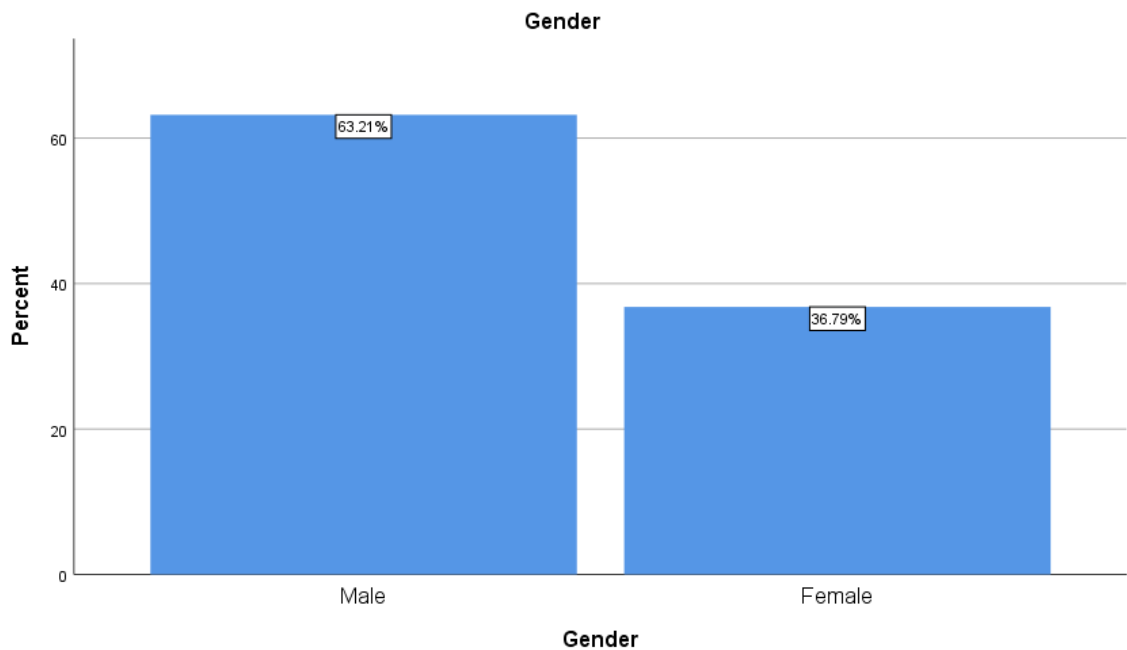


Figure 4.1: Gender representation

Out of the 106 respondents, 67, representing 63.2%, were males, while the remaining 39, corresponding to 36.8%, were females. This shows that the number of CAD teachers in the Sagnarigu municipality is dominated by males.

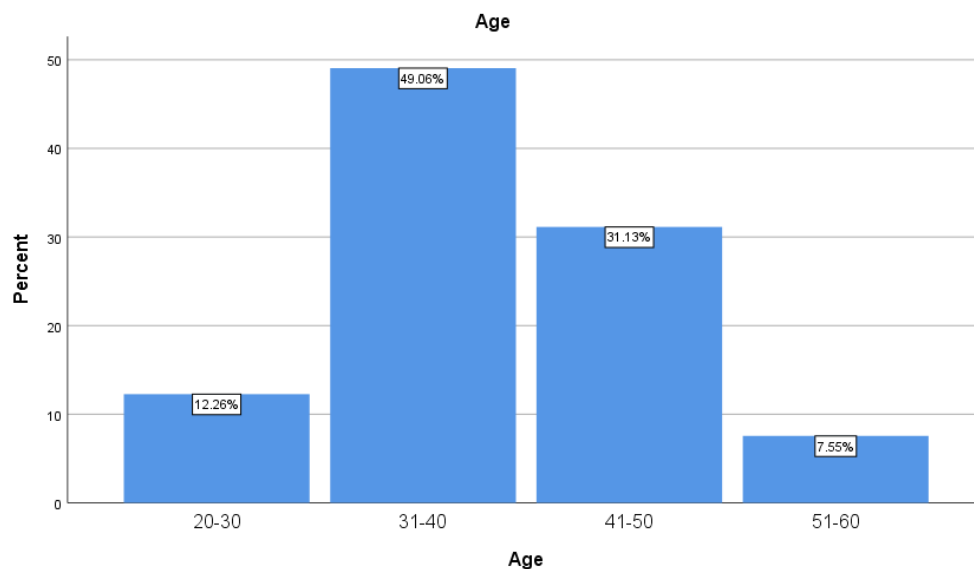


Figure 4.2: Age representation

In terms of the age ranges of the respondents, Figure 3 shows that age ranges from 31-40 are the majority, with 52 representing 49.1%, followed by age 41-50 with 33 respondents, corresponding to 31.1%. The least age range is 51-60, and they were 8, corresponding to 7.5%. The data is a true reflection of the age of active service in Ghana.

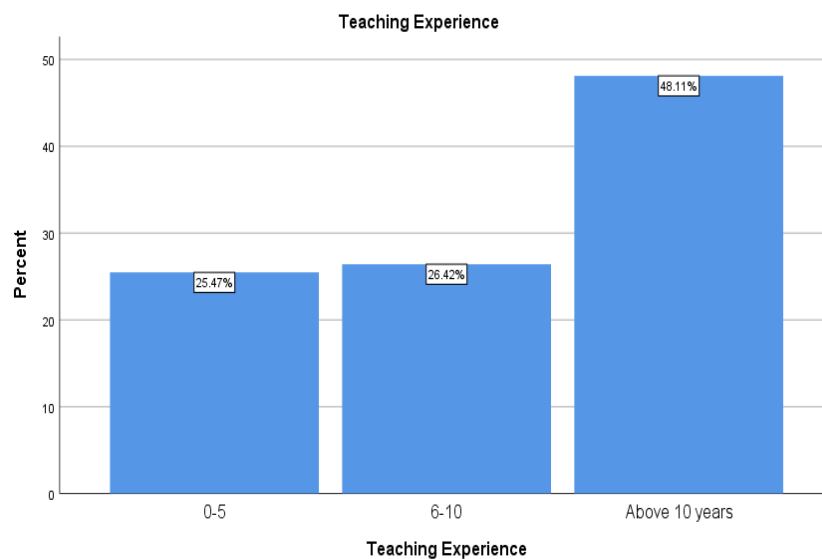


Figure 4.3: Teaching Experience Representation

The teaching experience in terms of the number of years of teaching, as presented in Figure 4.3, shows that teachers who have taught for more than ten years are 51, which is 48.11% in terms of percentage, while teachers who have taught for at most five years are the least group with 27 respondents, representing 25.5 percent. Those who have taught between six to ten years are 26.4%. This means that there are a lot of teachers with many years of experience in teaching. On average, teachers have approximately nine years of teaching experience. It proves the depth of experienced teachers among the respondents.

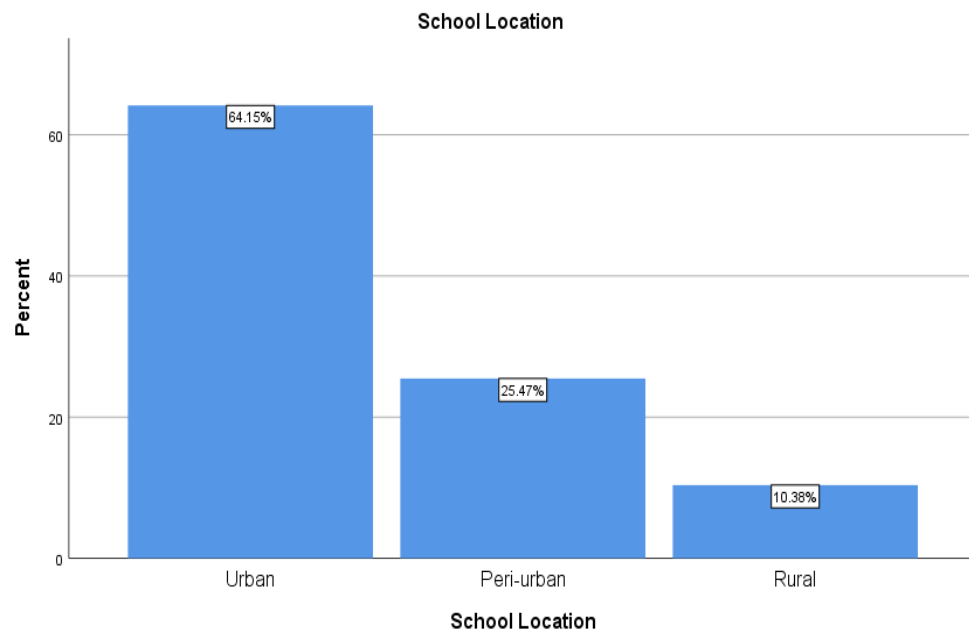


Figure 4.4: School Location Representation

Regarding the geographical location of the schools of respondents, Figure 4.4 shows that more than 60% teach in urban schools. The number of respondents in urban schools is 68, representing 64.2%, peri-urban 27 at 25.4%, while the least is 11 respondents from rural schools with a percentage of 10.4%. Most urban schools show why Sagnarigu Municipality gained its status as a municipality.

4.1.2 Section B: Requisite Training and Resources

This section presents the results of the data collected from respondents regarding their abilities and requisite pre- and in-service training, as well as the requisite resources available to them to teach Creative Arts and Design. The aim of this section of the questionnaire was to determine if teachers handling the subject had some knowledge and enough training to be able to teach the subject effectively. This data is very crucial to ascertain the need for the implementation of the professional development programme.

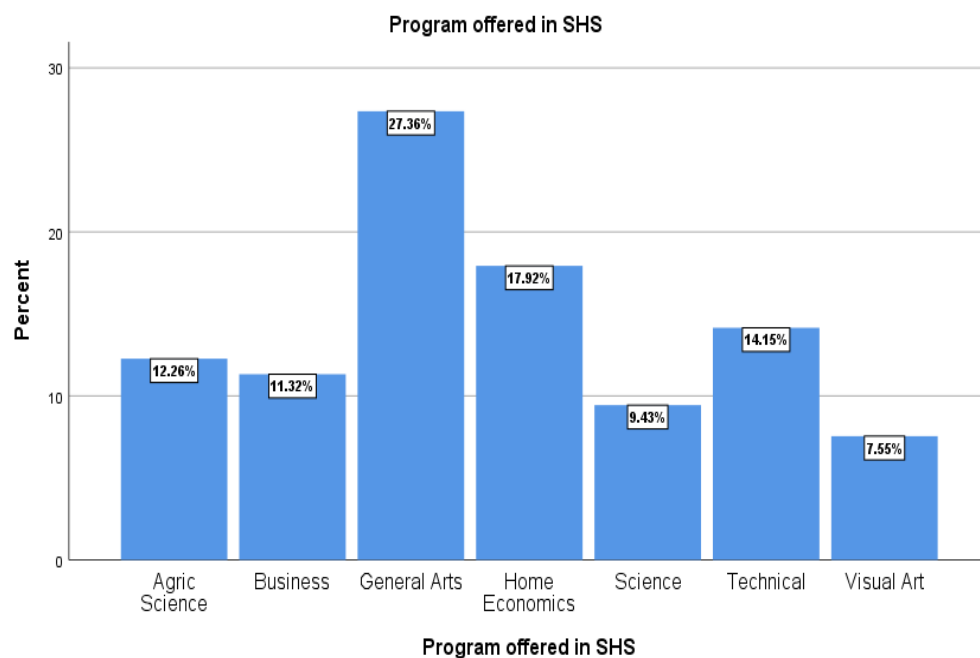


Figure 4.5: Programmes Offered at SHS representation

The distribution shows that teachers offer a variety of Senior High School (SHS) programmes, with the highest proportion from General Arts (27.4%) and the least from Visual Art (7.5%). This diversity indicates that Creative Arts and Design teachers have varied academic backgrounds, which could influence their teaching styles and approaches. Teachers with visual art backgrounds definitely would be able to translate their knowledge in art into teaching Creative Arts and Design effectively, but teachers without art backgrounds could find it difficult to teach the subject. Unfortunately, however, those with visual art backgrounds are

infinitesimal, as the results show. This implies that a greater percentage of CAD teachers (92.5%) have no art background and would be struggling to teach the subject, hence the need for a professional development programme.

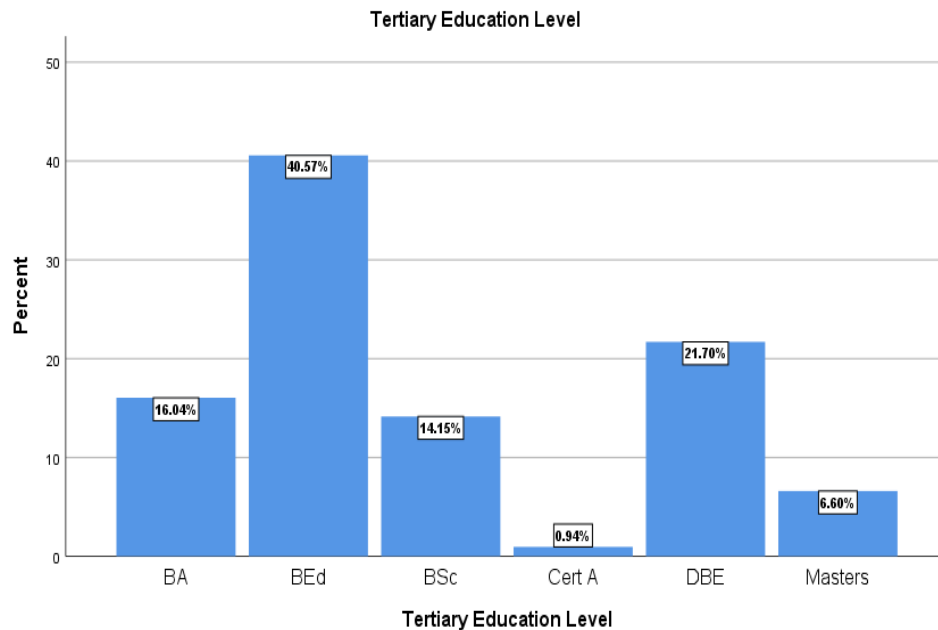


Figure 4.6: Tertiary Educational Level Representation

From the chart, the majority of teachers hold a Bachelor of Education (BEd) (40.6%), indicating a strong foundation in education. A significant number also hold Diploma in Basic Education (DBE) (21.7%) and Bachelor Degrees (BA) (16.0%) degrees, reflecting a mix of general education and specialised training. Only a small fraction have a master's degree. The result reflects education degrees as a necessity in the Ghanaian education service. But as to whether the degrees are art specialisation is what needs to be uncovered in the next data on tertiary education specialisation.

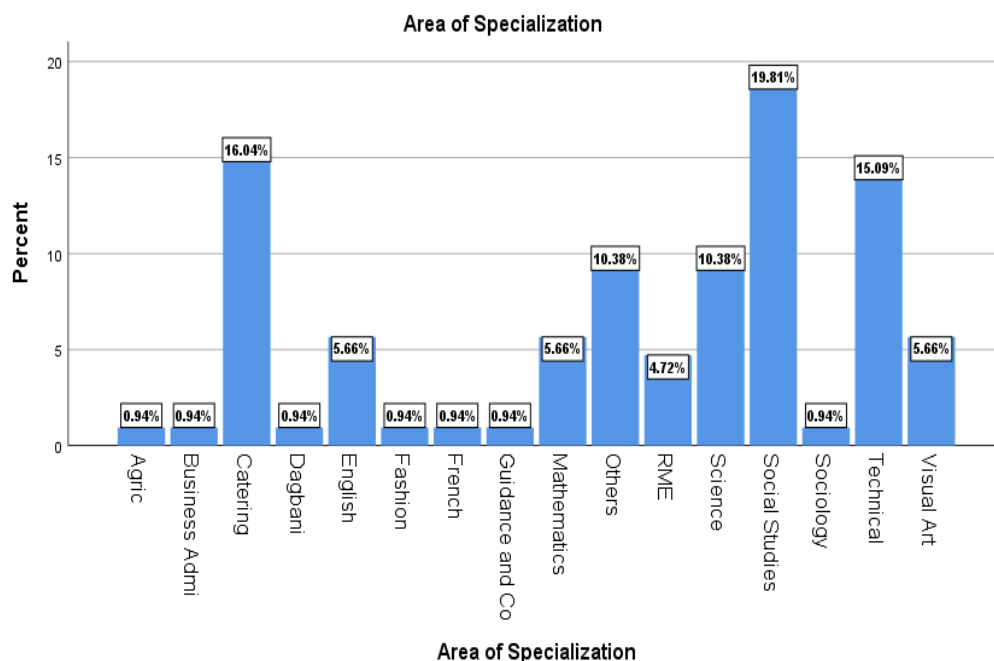


Figure 4.7: Qualification Specialisation Representation

The chart indicates that CAD teachers specialise in various fields, with the highest proportions in Social Studies (19.8%) and Catering (16.0%). Teachers who specialised in Visual Art are among the least with only 5.7%. This implies that a greater percentage (94.3) did not specialise in art in their tertiary education but are compelled to teach the subject due to the lack art specialist teachers in their various schools. This definitely has a negative impact on the teaching and learning of the subject, hence a strong need for a professional development programme for these teachers to enhance their teaching of Creative Arts and Design.

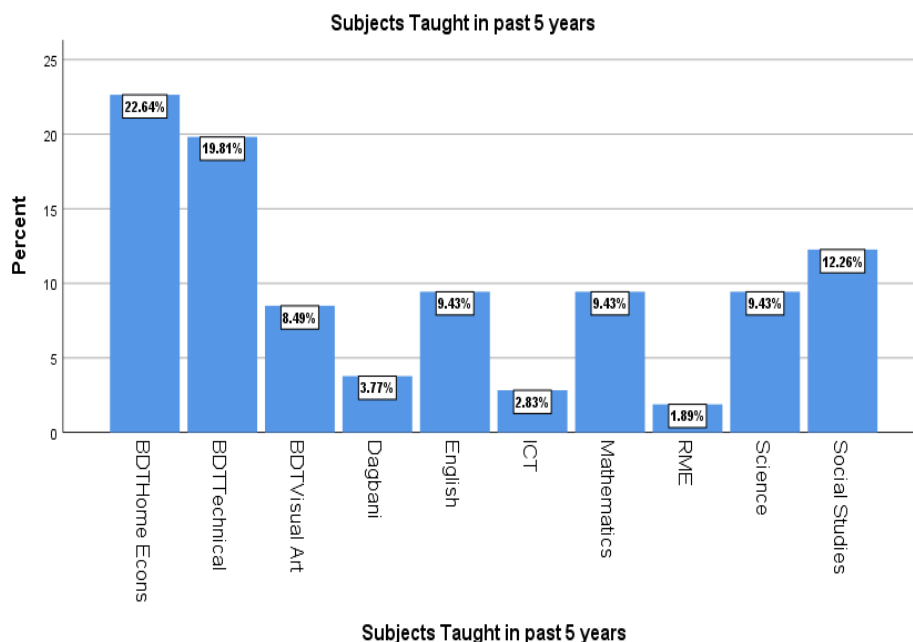


Figure 4.8: Representation of the subjects taught in the past 5 years

In the past five years, as at the time of collecting the data in 2024, most teachers have taught Basic Design and Technology (BDT)-Home Economics (22.6%) and BDT-Technical (19.8%), indicating a significant focus on these areas in their recent teaching experience. Only 8.5% of the respondents had taught BDT-Visual Art in the old curriculum. This means that the rest of the respondents (91.5%) had not been taught the Visual Art option in the old Basic Design and Technology subject. This suggests that the overwhelming 91.5% of the Creative Arts and Design teachers have little practical experience in teaching the subject.

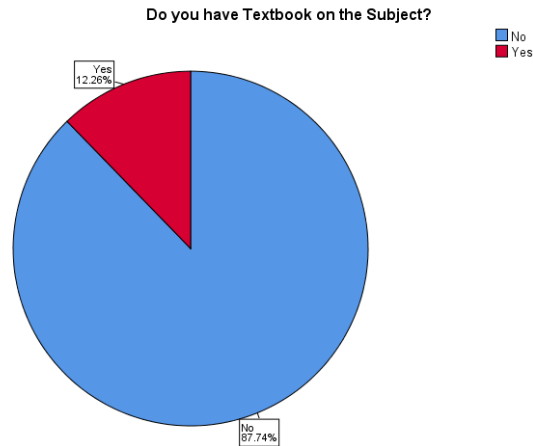


Figure 4.9: Answer to the question regarding the availability of the Textbooks

Regarding the availability of textbooks for teaching and learning CAD, a large majority of teachers (87.74%) do not have textbooks for their subjects, indicating a significant resource gap that could impact the quality of art education. The remaining 12.26% who affirmed having textbooks indicated that those textbooks were their private property and not from their employer.

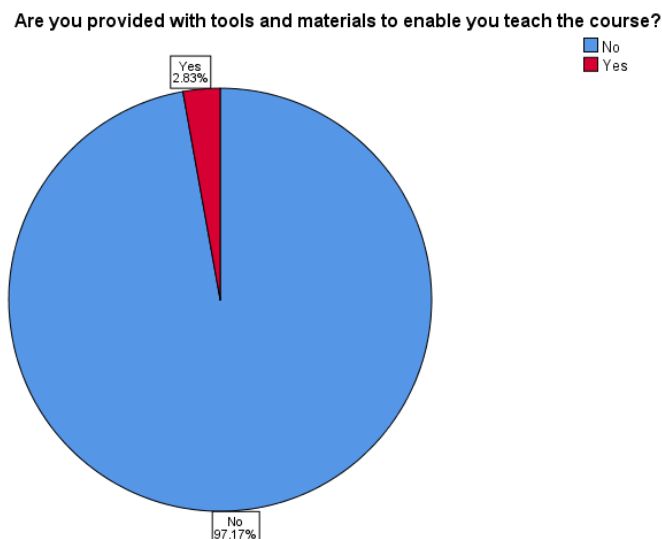


Figure 4.10: Answer to the question regarding the availability of art materials and tools

Concerning the provision of tools and materials, an overwhelming majority (97.2%) reported not being provided with necessary tools and materials, highlighting a critical issue in resource availability for effective teaching. This implies that teachers are teaching in a vacuum without the requisite tools and materials to engage learners in practical demonstrations of skills as demanded by the new CAD curriculum.

Have you received training sponsored by your current employer to enable you teach this subject?

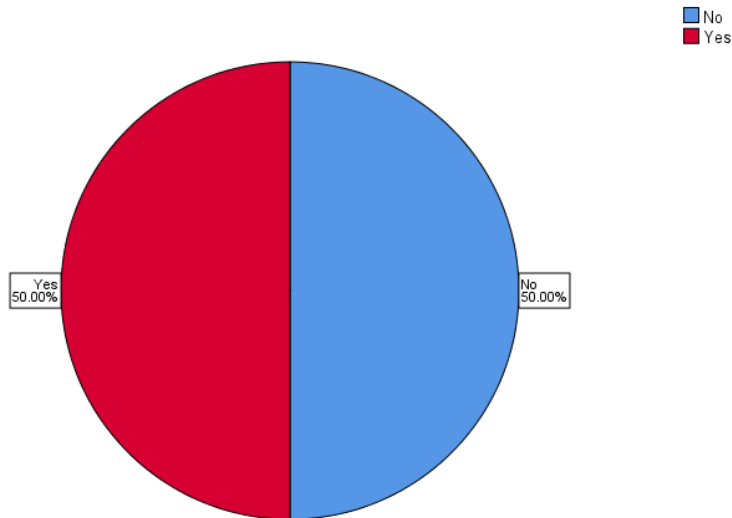


Figure 4.11: Answer to the question regarding in-service training availability

Half of the teachers (50%) have indicated that they received employer-sponsored training while the remaining half did not receive employer-sponsored in-service training to enable them to teach the CAD effectively. This suggests that while there is some support for professional development, it is not universal and thus does not cater for every CAD teacher. Whether the training duration was enough to equip the CAD teachers with the requisite content and pedagogical knowledge of the subject would be uncovered in the ensuing data.

How long did the professional development training on the new Creative Arts and Design curriculum last?

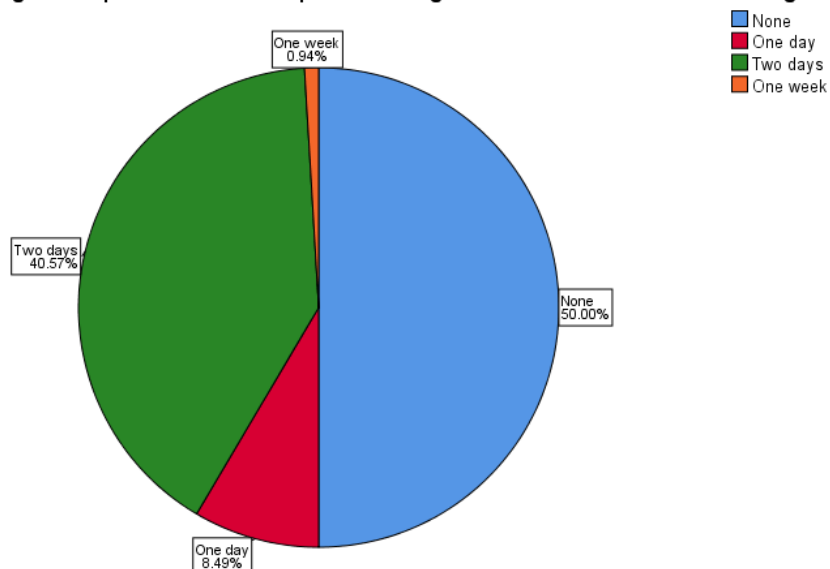


Figure 4.12: Answer to the question regarding the duration of in-service training attended

As indicated in the preceding data, half of the respondents have not received any in-service professional development training. Most of those who have received the professional development training regarding the teaching of CAD only had short durations (one or two days), indicating a need for more extensive training programmes to enable them to teach the subject effectively.

Was the duration for the training adequate and prepared you to teach the subject?

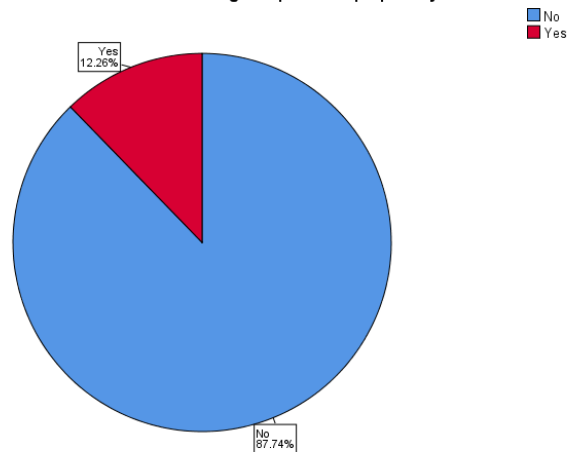


Figure 4.13: Answer to the question regarding the duration and impact of in-service training attended

The result shows that a significant majority of the respondents (87.7%) believe that the training duration was not adequate to prepare them to teach the subject effectively. Only 12.3% indicated the duration was adequate to prepare them to teach the subject effectively. These further stressed the need for an in-service professional development programme to cater for the majority who held contrary views to the effectiveness of the training duration.

Did the training equip you with requisite content and pedagogy to enable you teach the subject?

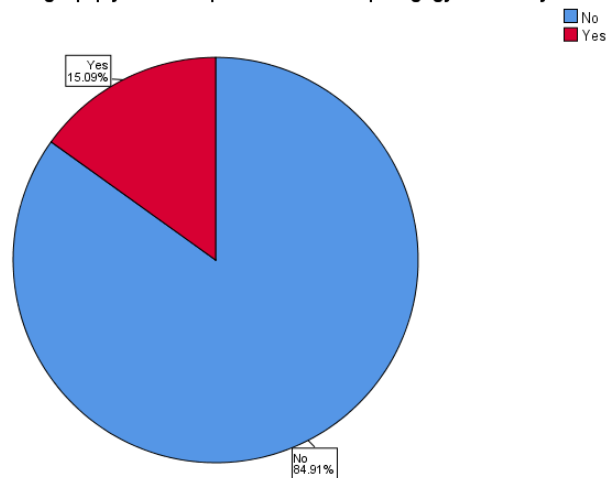


Figure 4.14: Answer to the question regarding the efficiency and impact of in-service training attended

Data revealed that a large proportion (84.9%) feel that the training did not equip them with the necessary content and pedagogy, indicating a gap in the quality or relevance of the training provided. This further indicates the necessity for in-service training on content and pedagogy of CAD to enable more of these teachers to teach the subject effectively.

Will you like to attend extra training to enhance your teaching of Creative Arts and Design?

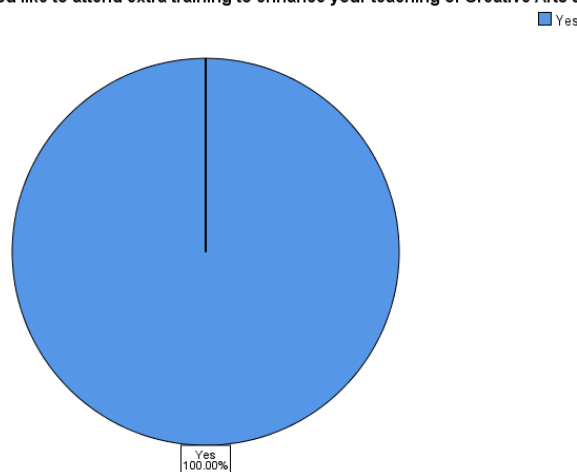


Figure 4.15: Answer to the question regarding the need for in-service training

The need for a professional development programme is ultimately confirmed in this chart because it shows that all respondents are willing to attend additional training, reflecting a strong desire for further professional development to enhance their teaching skills.

What is your level of satisfaction associated to the professional training sponsored by your employer in terms of content relevance?

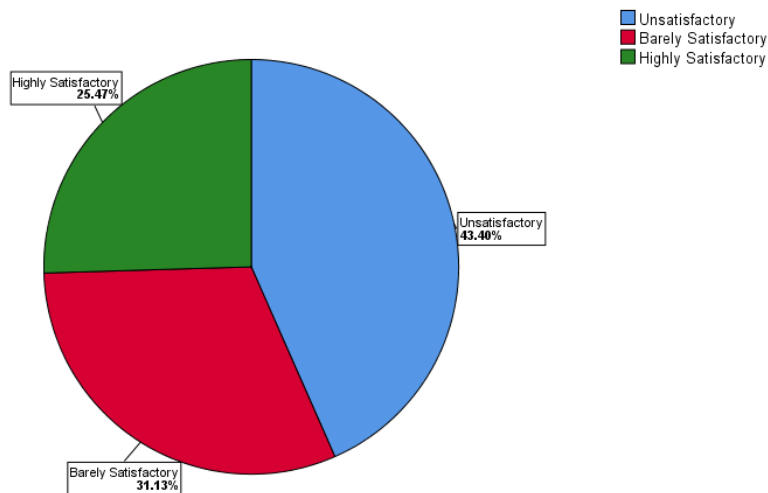


Figure 4.16: Answer to the question regarding satisfaction levels about the content relevance of the available in-service training

The chart shows that a notable portion (43.4%) find the content relevance of the training unsatisfactory. Combined with those who find it barely satisfactory (31.1%), this suggests significant dissatisfaction with the training content among teachers. This implies that the current content of the professional training sponsored by their employer was irrelevant to the teaching of CAD. This calls for further specialised training with longer duration to equip the teachers with relevant CAD content.

What is your level of satisfaction associated to the professional training sponsored by your employer in terms of methodology and modality?

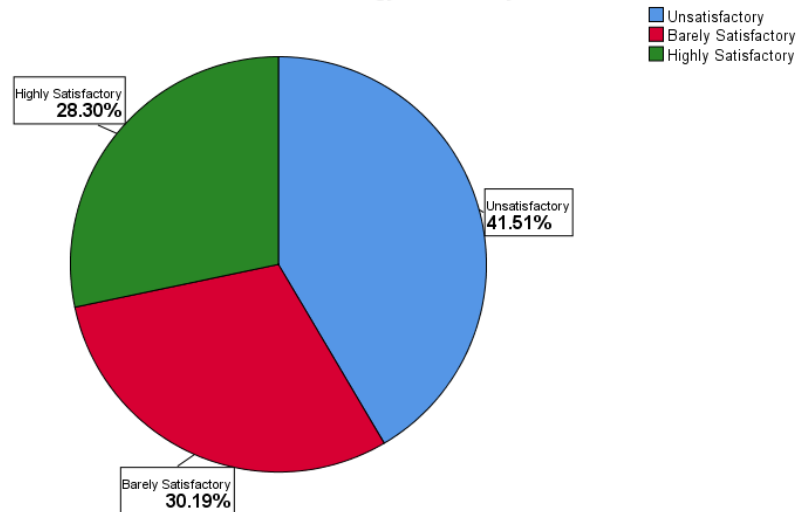


Figure 4.17: Answer to the question regarding satisfaction levels about the methodology and Modalities of the available in-service training

Similar to content relevance, a large number of respondents (41.5%) are unsatisfied with the training methodology and modality. This, combined with those who find it barely satisfactory (30.2%) indicates room for improvement in how the training was conducted. This suggests that a carefully thought-out professional development programme which is rich in methodology should be organised to cater for the CAD needs of the teachers.

What is your level of satisfaction associated to the professional training sponsored by your employer in terms of applicability of the content in your area of context?

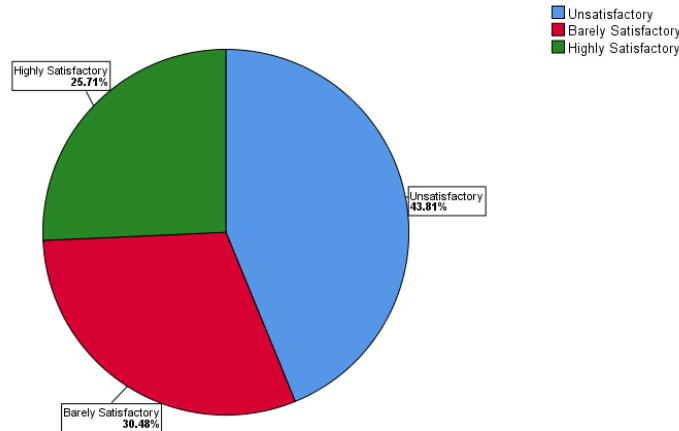


Figure 4.18: Answer to the question regarding satisfaction levels of Applicability of the content of the available in-service training

A significant portion of respondents (43.8%) find the professional training to be unsatisfactory in terms of applicability to their context. Another 30.5% find it barely satisfactory, while 25.7% find it highly satisfactory. This indicates a general sense of dissatisfaction or moderate satisfaction among the respondents regarding the applicability of the training content. These discoveries were taken into consideration when organising a professional development programme for these CAD teachers.

4.1.3 Section C: Teachers' Perceptions of Creative Arts and Design

This data pertains to the teachers' perceptions about Creative Arts and Design. It is one of the variables of the objective – to assess teachers' perceptions about CAD. The first question was to find out whether Creative Arts and Design does have an impact on students. Figure 4.19 illustrates the answer.

Do you think the Creative Arts and Design curriculum will have an impact on students?

■ Yes

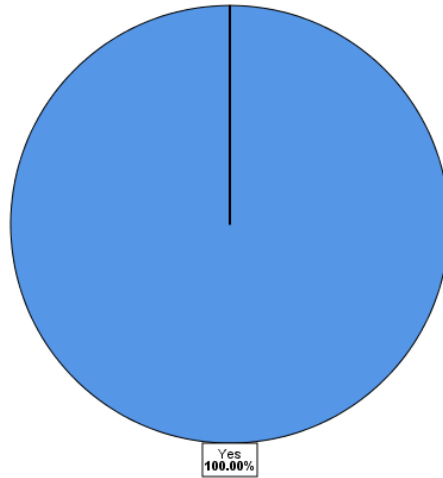


Figure 4.19: Answer to the question regarding the impact of CAD on students

All respondents unanimously believe that the Creative Arts and Design curriculum will have a positive impact on students. This shows a strong consensus among teachers on the value and importance of the curriculum in enhancing student outcomes.

Do your students understand and be able to apply what you teach them?

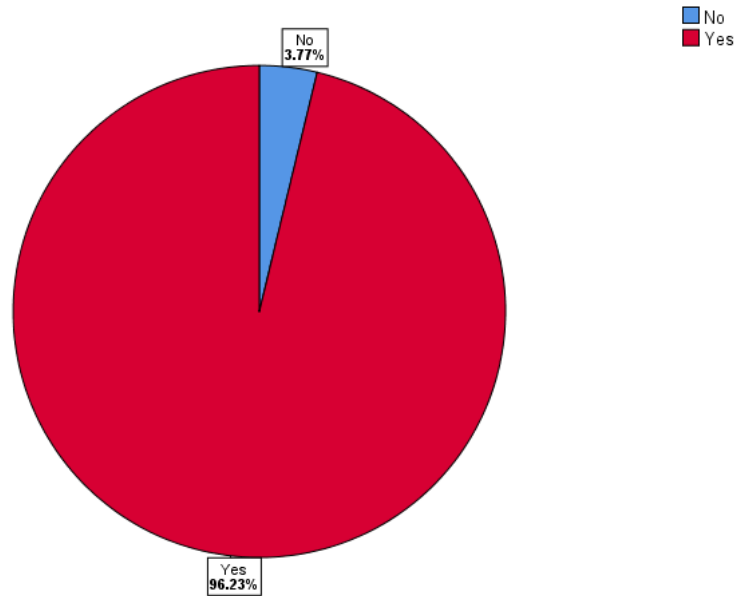


Figure 4.20: Answer to the question regarding the impact of the current teaching methods on students

An overwhelming majority of respondents (96.2%) believe that their students understand and can apply what they are taught. This indicates that although a significant number of teachers do not have the requisite training and resources in teaching CAD, learners do understand the subject because of the entertainment embedded in the CAD curriculum. Again, a small minority (3.8%) believing otherwise suggests that there are challenges.

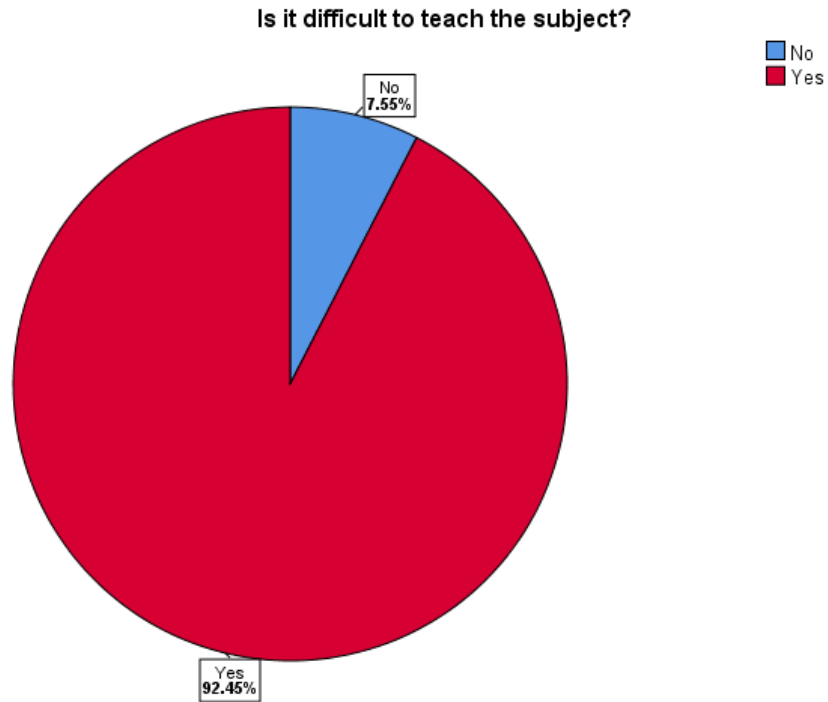


Figure 4.21: Answer to the question regarding the difficulty in teaching the CAD subjects

An overwhelming majority of respondents (92.5%) indicated that it is difficult to teach Creative Arts and Design, while an infinitesimal number (7.5%) believe the subject is not difficult to teach. This suggests that a lot of CAD teachers are struggling to teach the subject to the benefit of students.

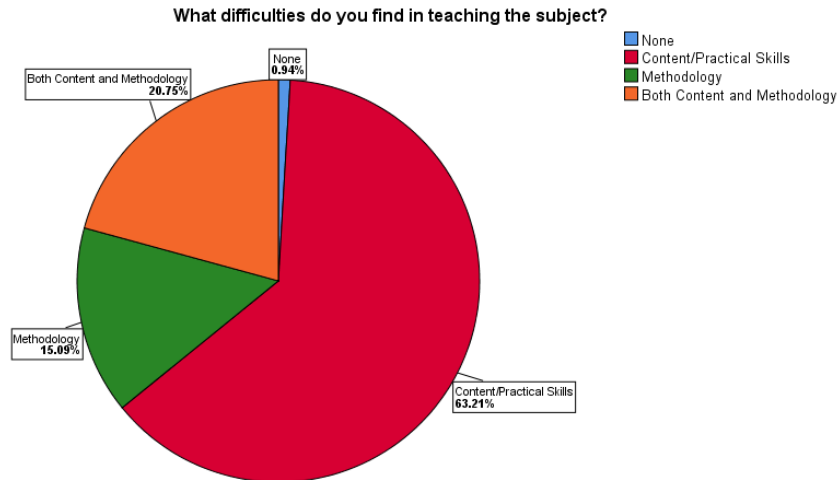


Figure 4.22: Answer to the question regarding the kind of difficulties in teaching the CAD subjects

The majority of teachers (63.2%) find difficulties primarily related to the content or practical skills required to teach the subject. This indicates that the subject matter itself presents challenges. Regarding the methodology, a smaller proportion of teachers (15.1%,) struggle with the teaching methods, suggesting that while the content is manageable for some, the way it is taught can be problematic. A significant number of teachers (20.8%) face issues with both the content and the teaching methods, indicating a more comprehensive set of challenges that need addressing. Very few teachers (0.9%) report no difficulties, highlighting that teaching CAD is generally perceived as challenging.

4.2 QUALITATIVE DATA RESULTS PRESENTATION – OBJECTIVE ONE

The qualitative results include headteachers' and the participating teachers' focused-group discussion on creative arts and design teaching concerns and issues. This also includes observations made during the various interactions during the formal interviews, discussion sessions and workshops. The first focus group discussion was conducted with headteachers to discover their concerns and issues. This was followed by the participating teachers' focus group discussion during the implementation of the project and the development of the

inclusive professional development programme. The focused-group discussion with headteachers revealed critical challenges in the teaching of Creative Arts and Design in the Sagnarigu Municipality. These challenges included a lack of suitable teachers, insufficient resources, ineffective training programmes, policy disconnects, teacher reluctance, and forced assignments. Despite these issues, there were indications that students enjoyed the interactive and entertainment aspects of the CAD curriculum. Addressing these challenges through better policy alignment, improved training programmes and adequate resource allocation is essential for the effective teaching of CAD in schools. The challenges are enumerated and elaborated in the following text.

4.2.1 Lack of Suitably Qualified Teachers

The most recurring theme in the discussion was the shortage of suitably qualified Creative Arts and Design (CAD) teachers. Headteachers expressed deep frustration over the difficulty in getting and retaining specialised teachers for this subject. This scarcity of qualified educators significantly hinders the implementation and effectiveness of the CAD curriculum in their schools. One headteacher lamented the lack of a dedicated creative arts master, explaining:

"We do not have the creative art master, so we do not teach it. We assigned it to an old man who is due for retirement just for formality because he cannot teach it".

This comment affirms a critical issue that in the absence of specialised teachers, schools resorted to assigning the subject to teachers who were not only unqualified but also nearing the end of their careers, resulting in a perfunctory approach to teaching the subject. This not only diminishes the quality of education but also undermines the subject's importance in the curriculum.

Another headteacher shared their ongoing struggle with the education office, stating:

"The office told us they would give us a Creative Arts and Design teacher but till to date they have not told us anything. For this reason, we do not teach it in this school".

This reflects a systemic issue where promises of staffing are made but not fulfilled, leaving schools in a perpetual state of waiting and unpreparedness. This lack of follow-through from the education office creates an environment where CAD is neglected, further contributing to the cycle of inadequate education in the arts. A similar sentiment was echoed by another headteacher,

"Sir please we do not offer the subject here because none of my teachers specialised in Creative Arts".

This simple yet powerful statement highlights the stark reality faced by many schools in this municipality. Without specialised teachers, the subject cannot be offered, depriving students of essential creative arts and design education that can promote critical thinking and problem-solving skills.

The problem of getting qualified CAD teachers was further emphasised by another headteacher who made repeated attempts to secure a qualified teacher:

"I did follow up on several occasions at the office just for them to get me a creative art teacher, but I could not get any. It seems the number of teachers who are offered as professional teachers is very few in the system. So, it is a big challenge".

This statement not only points to the proactive efforts made by school administrators but also highlights a larger systemic issue, namely the shortage of professional CAD teachers within the education system. This shortage could be attributed to several factors, including inadequate training programmes, low

interest in the subject among potential teachers, or unattractive working conditions in rural or underserved areas.

The shortage of qualified teachers is a multifaceted problem. It impacts not just the availability of the subject but also the quality of education provided. When unqualified or unwilling teachers are forced to take up the subject, it often leads to ineffective teaching, which can discourage student interest and engagement. Over time, this can result in a diminished appreciation for the arts, which is crucial for holistic development. Moreover, the issue of qualified teacher shortage also points to broader systemic problems within the education sector, such as insufficient professional development opportunities, lack of incentives for teachers to specialise in subjects like CAD, and inadequate support from the education administration. These systemic issues need to be addressed through comprehensive policy reforms, including enhanced teacher training programmes, better incentives for specialisation, and more robust recruitment strategies to attract and retain qualified CAD teachers.

4.2.2 Insufficient or Lack of Resources

Another significant theme that emerged from the focused-group discussions was the lack of necessary resources to effectively teach Creative Arts and Design (CAD). This issue compounded the challenges faced by schools, even when they had access to suitably qualified teachers. The absence of essential tools and materials significantly hampered the teaching process, making it difficult for teachers to deliver a comprehensive and engaging curriculum. One headteacher highlighted the critical issue of resource scarcity:

"For this school, we have a specialist art teacher, but the resources are not there to enable them to teach effectively. You know it is a practical course, and it requires a lot of tools and materials, but we do not have them".

This statement reinforces the disconnect between having qualified personnel and the ability to utilise their expertise effectively. CAD, being a practical subject, requires a variety of materials, such as paints, brushes, canvases, clay, and other art supplies that are essential for hands-on learning and creativity. Without these resources, the practical component of the curriculum cannot be executed, rendering the subject theoretical and less engaging for students.

The lack of resources not only stifles creativity but also affects the learning experience. Practical courses like CAD rely heavily on experiential learning (Vygotsky 1978), where students learn by doing. This hands-on approach helps students develop fine motor skills, visual-spatial awareness, and the ability to think creatively and critically. However, when resources are inadequate, teachers are forced to adopt a more didactic approach, focusing on theory and demonstrations rather than interactive, hands-on activities. This shift can lead to disengagement among students, who might find the subject less appealing and stimulating. Moreover, the absence of appropriate resources can lead to frustration and demotivation among teachers. Specialist art teachers, trained to deliver a rich and interactive curriculum, may feel constrained and unable to fulfil their professional potential. This frustration was evident in the sentiments expressed by the headteachers. When teachers are not provided with the necessary tools to execute their lessons effectively, it undermines their confidence and ability to inspire students. Over time, this can lead to burnout and attrition, further exacerbating the shortage of suitably qualified CAD teachers.

The issue of insufficient resources also reflects broader systemic inadequacies within the education system. Budget constraints, lack of prioritisation of arts education, and inadequate infrastructure contribute to this problem. Many schools, especially those in rural or underfunded areas, struggle with basic necessities, making it challenging to allocate funds for art supplies. This situation highlights the need for policymakers to recognise the importance of arts education and ensure that schools are adequately funded and resourced to provide a well-

rounded education. Furthermore, the lack of resources has implications for the equitable provision of education. Students in under-resourced schools are deprived of opportunities to engage in creative and artistic activities, which are crucial for their holistic development. This inequity can lead to a gap in skills and knowledge between students from different socio-economic backgrounds, perpetuating cycles of disadvantage.

4.2.3 Ineffectiveness of In-service Training Programmes

Another critical theme identified in the focused-group discussion was the ineffectiveness of existing professional in-service training programmes for Creative Arts and Design (CAD) teachers. Headteachers expressed significant concerns regarding the inadequacy of these training sessions, citing issues such as the short duration, lack of depth, and poor quality of content. These shortcomings were seen as major barriers to equipping teachers with the necessary skills and knowledge to effectively teach CAD. One headteacher lamented:

"They organised a two-day training for the teachers, but my teachers who attended it said the training was not effective, so they cannot teach the subject".

This statement encapsulates the broader sentiment shared by many headteachers about the superficial nature of the training programmes. A two-day workshop, while potentially useful for an overview or introduction, is insufficient for a subject as complex and multifaceted as CAD, which requires a deep understanding of both theoretical principles and practical techniques.

The short duration of these training programmes was a common point of critique. Headteachers noted that the limited time allocated to these sessions did not allow for a comprehensive exploration of CAD topics. One headteacher observed:

"The training sessions are too brief to cover the necessary content adequately. Teachers need more time to understand and practice new concepts".

This observation amplifies the need for more extended and intensive training programmes that allow teachers to fully grasp and apply what they learn. In addition to the short duration, the quality of the training content was also called into question. Headteachers reported that the sessions often lacked depth and practical relevance, making it difficult for teachers to translate the training into effective classroom practice.

"The training was very theoretical and did not include enough practical activities",

One headteacher stated. This lack of practical application can leave teachers feeling unprepared and uncertain about implementing new strategies in their teaching.

Moreover, the training programmes were often criticised for not being tailored to the specific needs and contexts of CAD teachers. Generic training sessions that do not address the unique challenges and opportunities in art education fail to provide the targeted support that teachers need.

"The training did not address the specific needs of art teachers. It was too general and not very useful for the specifics of teaching art",

a headteacher explained. Effective professional development should be customised to meet the distinct requirements of different subjects, ensuring that teachers receive relevant and actionable guidance.

Another issue highlighted was the lack of follow-up and ongoing support after the initial training sessions. Professional development should be an ongoing process, with continuous opportunities for teachers to refine their skills, receive feedback,

and address emerging challenges. However, headteachers noted that there was often no support system in place to help teachers after the initial training.

"There is no follow-up after the training. Teachers are left on their own to figure things out",

One headteacher mentioned. This lack of sustained support can undermine the effectiveness of the training, as teachers may struggle to implement new practices without additional guidance and resources.

The perceived ineffectiveness of training programmes also had a demoralising effect on teachers, further impacting their ability to teach CAD effectively. When teachers feel that their professional development needs are not being met, their motivation and confidence can suffer.

"Teachers feel discouraged when the training does not help them. It affects their confidence and willingness to teach the subject",

A headteacher noted: "Ensuring that training programmes are effective and meaningful is crucial for maintaining teacher morale and commitment".

4.2.4 Policy and Administrative Challenges

One of the most pressing themes that emerged from the discussion with headteachers was the significant disconnect between policy decisions made by educational authorities and the practical realities faced by schools. This disconnect has resulted in a number of administrative challenges, particularly regarding the implementation and support for Creative Arts and Design (CAD) education. Headteachers expressed frustration and confusion over policies that seemed ill-conceived and poorly executed, highlighting several key issues. A recurring sentiment among the headteachers was that policymakers failed to consider the actual conditions and resources available in schools when

introducing CAD into the curriculum. One headteacher's comment summarised this frustration:

"I do not know what the policymakers are thinking. You don't have teachers to teach a subject, but you introduced it in the schools. You did not also give teachers adequate training to enable them to handle the subject. How do you expect the teachers to teach it knowing that it is a technical area"?

This remark explains the perceived lack of foresight and planning in policy decisions. Introducing a specialised subject like CAD without ensuring that there are adequately and suitably trained teachers to deliver the content sets both teachers and students up for failure.

The policy of assigning teachers without considering their specialisations also came under heavy criticism. Headteachers shared instances where they requested CAD teachers but were assigned teachers who lacked the necessary qualifications and expertise. One headteacher explained:

"We wrote to the office that we needed a creative arts teacher, but they posted two teachers to the school. These two teachers are not creative art teachers, so, they said they cannot teach it".

This misalignment between the school's needs and the administrative actions not only disrupts the teaching process but also demoralises teachers who are expected to teach subjects outside their expertise. Adding to the complexity, headteachers reported being explicitly instructed not to reject or return any teacher assigned to their school, regardless of their qualifications.

"About two days ago we had a headteachers' workshop, and we were warned never to reject nor return any teacher being posted to our schools",

One headteacher recounted. This policy further exacerbates the problem by leaving schools with teachers who are either unqualified or unwilling to teach CAD, thus compromising the quality of arts education offered to students.

These administrative challenges are compounded by inadequate in-service training and professional development for teachers. As another headteacher pointed out, the absence of substantial training initiatives means that even willing teachers feel ill-prepared to tackle the complexities of CAD. The frustration is palpable in the statement:

"You also did not give teachers adequate training to enable them to handle the subject".

This points to a critical gap in the policy implementation process where the support structures necessary for successful curriculum delivery are missing. Again, the administrative burden placed on headteachers to manage these inadequacies adds another layer of difficulty. Headteachers are often caught between adhering to policy directives and addressing the practical needs of their schools. The pressure to accept all posted teachers without consideration for their qualifications places headteachers in a difficult position, forcing them to navigate these challenges while trying to maintain a high standard of education. The experiences shared by the headteachers highlight a broader systemic issue where policy and administration fail to align with the on-the-ground realities of educational practice. This disjunction not only hinders the effective implementation of CAD education but also raises questions about the governance and decision-making processes within the educational system.

4.2.5 Teacher Reluctance and Turnover

Another significant theme that emerged from the discussion with headteachers was the reluctance of teachers to take on Creative Arts and Design (CAD) classes, especially in rural settings. This reluctance, coupled with a high turnover

rate, posed substantial challenges to the consistent and effective teaching of CAD. A major factor contributing to this reluctance was the lack of specialised training among teachers. Many teachers felt unprepared to teach CAD due to insufficient professional development and training programmes. Without a solid foundation in the subject, teachers were often hesitant to take on CAD classes, fearing they would not be able to deliver the curriculum effectively. As one headteacher noted:

"They organised a two-day training for the teachers, but my teachers who attended it said the training was not effective, so, they cannot teach the subject".

This statement stresses the inadequacy of short-term training sessions in equipping teachers with the necessary skills and confidence to teach CAD. The rural setting further exacerbated the issue of teacher reluctance. Rural schools often face additional challenges, such as limited resources, isolation, and lower levels of support compared to their urban counterparts. These factors make rural assignments less attractive to teachers, leading to higher rates of avoidance and turnover. One headteacher recounted a telling experience:

"A teacher came to me that he needed assurance letter to be posted to this school by the Municipal Education Office, and I was very happy. But I later saw him in one of the urban schools because this is a rural setting, that's why he ran away".

This narrative highlights the difficulties rural schools face in retaining teachers, as the rural context often drives them to seek positions in urban areas where conditions are perceived to be better.

The high turnover and reluctance of teachers to engage with CAD classes have direct negative impacts on students and school performance. Frequent changes in teaching staff disrupt the continuity of instruction, which is crucial for subjects like CAD that require sustained, hands-on learning and development of skills.

Students suffer from the lack of stable, committed teachers who can provide the necessary guidance and support. This instability can hinder students' progress and diminish their interest in the subject, ultimately affecting their academic performance and development in the arts. Some headteachers have attempted various strategies to mitigate the issue of teacher turnover. These include efforts to create a more supportive school environment and advocating for better resource allocation. However, these efforts often fall short due to systemic issues beyond the control of individual schools. The lack of comprehensive support from higher administrative levels and the absence of long-term, sustainable solutions make it difficult to address the root causes of teacher reluctance and turnover effectively.

4.2.6 Forced Assignments

Another theme that emerged from the focused group discussion with headteachers was the practice of forced assignments, where teachers without the necessary qualifications or willingness were compelled to teach Creative Arts and Design (CAD). This approach, driven by the urgent need to fill teaching positions, often resulted in suboptimal teaching outcomes and added stress for both teachers and students. One of the most pressing issues was the necessity to assign CAD responsibilities to teachers who lacked both specialised training and interest in the subject. Headteachers frequently expressed frustration over this situation. One headteacher articulated the problem succinctly:

"The subject needs to be handled by an expert but we do not have any teacher who has that qualification, so we force it on some teachers to manage it".

This statement highlights the systemic issue of staffing inadequacies, where schools are left with no option but to compel unqualified teachers to take CAD classes. The lack of specialised training means that these teachers are often ill-prepared to deliver the curriculum effectively, leading to a compromised quality of education. One teacher, reflecting on being forced into a CAD teaching role, said:

"I never wanted to teach arts, but there was no one else. It's been challenging because I don't have the training, and the students can tell I'm struggling".

This comment justifies the personal and professional difficulties faced by teachers in forced assignments and highlights the need for systemic changes.

The forced assignment of unqualified teachers inevitably affects the quality of CAD instruction. Teachers who are coerced into teaching a subject they are not trained for often struggle to engage students and deliver the content effectively. This scenario can lead to a demotivating classroom environment where neither the teacher nor the students are fully invested in the learning process. One headteacher mentioned:

"We assigned it to two of our teachers to manage with it".

This approach, while a stopgap measure, typically results in a fragmented and ineffective teaching strategy, as these teachers may lack both the necessary pedagogical skills and the passion for the subject. Forced assignments also contribute to teacher dissatisfaction and increased stress levels. Teachers who are assigned to teach CAD against their will may feel overwhelmed by the demands of a subject they are not familiar with. This can lead to burnout and a higher turnover rate, exacerbating the already critical shortage of qualified CAD teachers. Teachers in these situations often express feelings of frustration and helplessness, as they are expected to perform well in a role they are neither trained for nor interested in.

The repercussions of forced assignments extend to student outcomes and engagement. When teachers are unqualified and uninterested, students are less likely to receive a high-quality education in CAD. The lack of enthusiasm and expertise from the teacher can result in disengaged students who miss out on the

benefits of a robust arts education. This situation can hinder students' creative development and reduce their interest in pursuing arts-related activities or careers. The practice of forced assignments has significant long-term implications for the educational system. It perpetuates a cycle of inadequate teaching and poor student performance in CAD, making it difficult to build a strong foundation in arts education. Over time, this can lead to a decline in the quality of education and limit the opportunities for students to explore and develop their creative potential.

4.2.7 Challenges in Specific Curriculum Areas

The discussion with headteachers revealed significant challenges in certain areas of the Creative Arts and Design (CAD) curriculum, particularly those involving music notations and scales. These topics were consistently identified as difficult for teachers, especially those who lacked specialised training in these areas. This issue brings to light the broader problem of insufficient preparation and support for teachers tasked with delivering a complex and diverse curriculum.

One of the most notable challenges was the difficulty teachers faced in teaching music notations and scales. These elements require a specific set of skills and knowledge that many generalist teachers, particularly those without a background in music education, do not possess. A headteacher highlighted this issue:

"The teachers complained of the scale and music notations aspects of the curriculum, but they are able to handle the other areas".

According to the teacher:

"I feel overwhelmed when I have to teach music notations and scales because I never received proper training in music. It's a struggle to make the lessons engaging and understandable for the students".

This statement reflects the struggle teachers face when dealing with more technical and specialised components of the CAD curriculum.

The complexity of music theory, which includes understanding and teaching scales, notations, rhythms, and the various elements that comprise musical composition, is daunting for teachers without formal training in music. This gap in knowledge can lead to a lack of confidence and effectiveness in teaching these areas, ultimately affecting students' learning experiences and outcomes. The difficulties in teaching music notations and scales have a direct impact on both teaching quality and student engagement. When teachers are not fully equipped to handle certain topics, their ability to deliver effective and engaging lessons is compromised. This can lead to a fragmented understanding of the subject for students, who may struggle to grasp fundamental concepts in music education.

However, despite these challenges, teachers were reportedly able to manage other areas of the CAD curriculum more effectively. The use of play-based learning and engaging activities in other aspects of the curriculum has been beneficial. As one headteacher noted:

"The students enjoy the lessons because it is a play-based learning and fun".

This positive feedback highlights the potential for success in CAD education when teachers are well-prepared and supported in their instructional efforts. The challenges in specific curriculum areas like music notations and scales point to a critical need for enhanced teacher training and support. Professional development programmes must be tailored to address these specific needs, providing teachers with the necessary skills and confidence to teach all aspects of the CAD curriculum effectively. This includes specialised training in music education for teachers who will be responsible for delivering this part of the curriculum.

Moreover, ongoing support and resources are essential. This could include access to expert mentors, additional instructional materials, and opportunities for collaborative learning among teachers. By addressing these needs, educational authorities can help ensure that teachers are better equipped to handle the diverse and complex requirements of the CAD curriculum.

4.2.8 Impact on Student Learning

Despite the numerous challenges faced in teaching Creative Arts and Design (CAD), some headteachers reported positive impacts on student learning, particularly highlighting the interactive and entertaining aspects of the subject. The interactive nature of the subject, which incorporates play-based learning, was particularly appealing to students. One headteacher noted:

"The students enjoy the lessons because it is a play-based learning and fun. You know they already like entertainment".

This statement reflects the inherent appeal of CAD lessons, which often involve hands-on activities, creative projects, and performance-based tasks that resonate with students' natural interests and inclinations. This feedback re-echoes the potential of CAD to engage students and promote a positive learning environment when implemented effectively.

The interactive elements of CAD lessons, such as group projects, art activities, and musical performances, contribute significantly to student engagement and learning. These activities provide students with opportunities to express themselves creatively, collaborate with peers, and develop a range of skills beyond traditional academic subjects. For instance, students may improve their fine motor skills through drawing and sculpting, enhance their teamwork abilities through group projects, and build confidence through public performances. A teacher's anecdote further illustrates this point:

"During our art sessions, the students are always eager to participate. They love the chance to paint, draw, and even act out scenes. It's amazing to see how much more confident and expressive they become through these activities".

This observation highlights the transformative potential of CAD education in promoting student confidence and creativity.

While the enjoyment and engagement levels among students were high, headteachers also noted that these positive outcomes were contingent upon the effective implementation of CAD lessons. The lack of qualified teachers and insufficient resources often hindered the potential impact of the subject. However, when these challenges were addressed, even partially, the benefits to student learning were evident. For example, one headteacher remarked:

"Even though we struggle with resources, the few times we have been able to get materials for art projects, the students have shown remarkable enthusiasm and creativity. It's clear that when given the tools, they thrive in these activities".

This statement shows the importance of providing adequate resources and support to maximise the benefits of CAD education. The enthusiasm and expertise of the teachers also influenced the impact of CAD lessons on student learning. When teachers were passionate about the subject and skilled in delivering engaging lessons, students responded positively. This was particularly evident in schools where headteachers had managed to get at least one specialist art teacher. One headteacher shared:

"Our art teacher has a real passion for the subject, and it shows in the students' work. They are always excited to attend her classes, and you can see the improvement in their skills and creativity".

This example illustrates how teacher enthusiasm and expertise can significantly enhance student learning outcomes in CAD. Beyond the immediate enjoyment and engagement, CAD education also holds the potential for broader educational benefits. Through CAD lessons, students can develop critical thinking skills, problem-solving abilities, and a greater appreciation for the arts and culture. These skills and attributes are valuable not only within the context of art education but also across other academic disciplines and in students' personal development.

A headteacher highlighted this broader impact:

"I've noticed that students who are actively engaged in our art programmes tend to perform better in other subjects as well. They seem to be more motivated and disciplined, which translates into their academic performance".

This observation suggests that the benefits of CAD education can extend beyond the arts, contributing to overall students' academic success and personal growth.

4.2.9 Serendipitous Classroom Observation and Discovery

During the needs analysis phase of this study, the researcher made an unexpected discovery while conducting fieldwork to distribute questionnaires to teachers in various schools. While visiting three different schools, the researcher was required to wait before formally introducing himself to the headteachers. As he sat outside classrooms and observed the teaching practices through the window, he noted that in these instances, Creative Arts and Design (CAD) was being taught in a predominantly theoretical manner. The researcher observed that instead of engaging students in practical, hands-on activities—which are integral to the nature of CAD education—the teachers were delivering lectures and emphasising theoretical concepts without utilising any practical tools or artistic materials. This approach contradicted the curriculum's focus on

experiential and interactive learning, which encourages creativity, experimentation, and the application of artistic skills.

In each of the three schools, this serendipitous discovery emphasised a major gap in the delivery of CAD education. The researcher noticed that these teachers did not engage students in active artistic creation, such as drawing, crafting, or using multimedia tools, even though the subject demands a more practice-oriented teaching style. These observations revealed that there may be a significant issue with the way CAD is taught in schools, stressing the need for an inclusive professional development programme for teachers. The lack of practical teaching in these classrooms pointed to possible deficiencies in the teachers' comfort level with CAD content and methodologies, as well as a need for better training to integrate both theory and practice effectively in CAD instruction.

4.3 QUALITATIVE DATA RESULTS: DESIGN OF PROFESSIONAL DEVELOPMENT (PD) PROGRAMME – OBJECTIVE TWO

4.3.1 Art Educationist Inputs and Recommendations

While conducting a focus group discussion with art educationists, the researcher first engaged them in a focused group discussion to gather their expert inputs and recommendations on designing a professional development (PD) programme. Through this process, several insightful suggestions were made and elaborated. Each suggestion emphasised different aspects of the PD programme that are crucial for its effectiveness. This section is the Design Phase of the study, which corresponds to the action planning step in action science research as indicated in the methodology. The following are the elaborated suggestions.

4.3.1.1 Hands-on, experiential learning

One key recommendation highlighted by the experts was the necessity of incorporating hands-on, experiential learning activities into the PD sessions. The emphasis on incorporating hands-on, experiential learning activities into the professional development (PD) sessions for CAD teachers was underscored by

the recognition that traditional lecture-style presentations might not fully meet the diverse learning needs of educators in the field of art education. This recommendation was based on the understanding that CAD teachers, who are tasked with promoting creativity and artistic expression in their students, would benefit immensely from active engagement in learning experiences that mirror the dynamic and interactive nature of the art classroom.

One educationist noted that when CAD teachers immerse themselves in practical exercises that simulate real-world teaching scenarios, they could gain firsthand experience in applying new techniques and instructional strategies within the context of their own classrooms. Through these experiential learning activities, teachers would not only deepen their understanding of theoretical concepts but also develop the practical skills and confidence needed to implement innovative teaching methods effectively. This hands-on approach to professional development aligns with contemporary pedagogical principles that prioritise active engagement, inquiry-based learning, and the application of knowledge in authentic contexts.

The recommendation by the educationist to incorporate experiential learning activities acknowledges the importance of addressing the diverse learning styles and preferences of CAD teachers. While some educators may thrive in traditional lecture settings, others may find greater value in interactive workshops, collaborative projects, or reflective discussions. Therefore, the PD programme should cater to the individual needs and preferences of participants by offering a variety of hands-on learning experiences to ensure that all teachers can engage meaningfully with the content and apply their learning in practical ways.

It is crucial to note that the suggestion to incorporate hands-on, experiential learning activities into the professional development (PD) sessions aligns with several principles and frameworks identified in the reviewed literature on effective teacher professional development. For instance, Guskey's model of professional

development highlights the importance of active learning and the application of knowledge in enhancing teacher effectiveness (Guskey 2002). Similarly, Desimone's model highlights the significance of providing opportunities for teachers to engage in ongoing, job-embedded learning experiences that are relevant to their teaching contexts (Desimone 2009).

The emphasis on experiential learning also resonates with research on effective instructional strategies in art education. Studies have shown that hands-on, inquiry-based approaches can lead to deeper conceptual understanding and greater retention of knowledge among students (Burton, Horowitz, & Abeles 2000). By extension, these approaches are also likely to be beneficial for educators themselves, as they engage in professional learning experiences that mirror the active, creative processes they aim to cultivate in their students.

The recommendation for experiential learning is consistent with broader educational theories, such as constructivism and situated cognition, which emphasise the importance of active engagement and authentic experiences in the learning process (Vygotsky 1978; Lave & Wenger 1991). According to these theories, learning is most effective when individuals are actively involved in constructing their understanding through authentic, contextually rich experiences. Therefore, by engaging in hands-on activities during the PD sessions, CAD teachers would have the opportunity to interact with content in meaningful ways, deepen their understanding through reflection and collaboration, and ultimately transfer their learning into practice more effectively.

4.3.1.2 Personalised Learning

Another significant recommendation put forth by the educationists focused on the importance of personalised learning opportunities within the PD programme. It was acknowledged that not all CAD teachers possess the same skill level or areas of expertise. Therefore, the programme should offer differentiated learning pathways to cater to the diverse needs of teachers by allowing them to choose or

customise their learning experiences based on their individual strengths and areas for growth. Hence, the PD programme could better address the unique professional development needs of each participant.

The recommendation for personalised learning opportunities within the professional development (PD) programme resonates with contemporary educational theories and frameworks, as well as empirical evidence on effective teacher-learning experiences. Guskey's model of professional development stresses the importance of providing teachers with opportunities for personalised, ongoing learning that is relevant to their individual needs and contexts (Guskey 2002). Similarly, Desimone's model highlights the significance of differentiated professional learning experiences that consider teachers' prior knowledge, experiences, and instructional practices (Desimone 2009).

Not only that, but also, the recommendation aligns with research on teacher motivation and engagement, which suggests that individuals are more likely to be motivated and invested in their learning when they have autonomy and agency in selecting learning goals and activities (Thoonen et al. 2011). Therefore, by offering personalised learning pathways, the PD programme would empower CAD teachers to take ownership of their professional growth and tailor their learning experiences to align with their unique interests and needs.

Additionally, the concept of differentiated instruction, which is widely recognised in the field of education, supports the recommendation for personalised learning opportunities in the PD programme. Just as teachers are encouraged to differentiate instruction to meet the diverse learning needs of their students, the PD programme should similarly differentiate learning opportunities to address the diverse professional development needs of CAD teachers.

Moreover, the recommendation is consistent with principles of adult learning theory, such as andragogy, which reiterates the importance of self-directed

learning and relevance to learners' experiences. By providing personalised learning pathways, the PD programme recognises the individual differences and autonomy of CAD teachers and creates a supportive learning environment that promotes their professional growth and development. The recommendation for personalised learning opportunities within the PD programme is therefore supported by theoretical frameworks in education, empirical evidence on teacher learning and motivation, and principles of adult learning theory. By offering differentiated learning pathways, the PD programme seeks to empower CAD teachers to engage in meaningful, relevant professional learning experiences that enhance their effectiveness as educators.

4.3.1.3 Ongoing Support

Additionally, the seasoned educationists amplified the need for ongoing support and mentorship beyond the formal PD sessions. This recommendation emphasised the importance of establishing mentorship networks or communities of practice where CAD teachers could continue to collaborate and receive guidance from experienced educators, thereby cultivating a culture of continuous learning and support. This implied that the PD programme could extend its impact beyond the duration of the training sessions to provide teachers with the resources and encouragement needed to sustain their professional growth over time.

The recommendation for ongoing support and mentorship beyond formal professional development (PD) sessions aligns with contemporary perspectives on teacher learning and development, as well as established frameworks for effective professional learning communities. Research suggests that sustained support and mentorship are crucial for translating new knowledge and skills into classroom practice and ensuring long-term improvements in teaching effectiveness (Darling-Hammond & Richardson 2009). The emphasis on ongoing support is also consistent with Guskey's model of professional development, which highlights the importance of follow-up support and coaching to ensure the

transfer of learning from professional development activities to classroom practice (Guskey 2002).

The recommendation also resonates with the concept of communities of practice, which are collaborative networks of educators who share expertise, resources, and best practices to support ongoing professional learning and growth (Wenger, 1998). The PD programme would, therefore, create opportunities for CAD teachers to establish mentorship networks or communities of practice to engage in collaborative problem-solving, peer observation, and reflective dialogue, which are essential components of effective teacher-learning communities (Little 1990).

In addition, the educationists' recommendation is supported by research on the role of mentorship in teacher retention and job satisfaction. Studies have shown that new teachers who receive mentorship and support from experienced colleagues are more likely to remain in the profession and report higher levels of job satisfaction (Darling-Hammond 2017). Therefore, the PD programme would not only enhance the professional growth of CAD teachers by providing ongoing support and mentorship. It would contribute to their job satisfaction and retention in the teaching profession as well.

Additionally, the recommendation aligns with principles of adult learning theory, which stress the importance of social interaction and collaborative learning in adult education (Vygotsky 1978). Therefore, the PD programme would create opportunities for CAD teachers by promoting mentorship networks and communities of practice to engage in meaningful, collaborative learning experiences that support their ongoing professional development. The recommendations provided by the art educationists highlighted the multifaceted nature of effective professional development for CAD teachers. Therefore, the PD programme could better meet the diverse needs of teachers by reiterating hands-on learning experiences, personalised learning pathways, and ongoing

support mechanisms to empower them to enhance their instructional practices in the field of art education.

4.3.2 The Professional Development Programme Framework

In developing the professional development (PD) programme framework, several key inputs and recommendations were considered to ensure its effectiveness in meeting the needs of Creative Arts and Design (CAD) teachers. The framework was designed with the overarching goal of enhancing the pedagogical practices and professional growth of educators in the field of art education. The inputs received from the experienced art educationists informed the development of the PD programme's goals, objectives, and components. Through a collaborative process, the following framework was established.

The goals of the PD programme were to:

1. Enhance the pedagogical skills and instructional strategies of CAD teachers.
2. Promote a supportive learning community for professional growth and collaboration.
3. Promote innovation and creativity in arts education practices.
4. Improve student engagement, motivation, and achievement in the Creative Arts and Design curriculum.

The objectives of the PD programme were to:

1. Develop a deeper understanding of best practices in art education pedagogy.
2. Acquire practical skills and techniques for integrating technology into arts instruction.
3. Explore innovative approaches to teaching and assessing creative expression.
4. Collaborate with peers to share resources, ideas, and strategies for effective teaching.

5. Reflect on teaching practices and identify areas for professional growth and development.

The components of the PD programme included:

1. Workshops and Seminars: Engage in interactive sessions led by art education experts on topics such as differentiated instruction, assessment strategies, and curriculum design.
2. Hands-On Activities: Participate in experiential learning exercises, including art-making workshops, gallery visits, and studio sessions, to explore new techniques and approaches firsthand.
3. Peer Learning Communities: Join small-group discussions, learning circles, or online forums to share experiences, resources, and challenges with fellow CAD teachers.
4. Coaching and Mentoring: Receive personalised support and guidance from experienced mentors or instructional coaches to address individual professional development goals.
5. Reflective Practice: Engage in ongoing reflection and self-assessment to evaluate teaching practices, set goals for improvement, and document progress over time.

The PD programme framework aimed to empower CAD teachers with the knowledge, skills, and support needed to enhance their instructional practices and enrich the learning experiences of their students in the Creative Arts and Design curriculum.

4.4 PHASE THREE: IMPLEMENTATION OF PD PROGRAMME

4.4.1 Pedagogy Workshop Activities and Engagement

The PD was implemented over four weeks. This implementation phase corresponds to the implementation and reflection learning steps of action science research. A variety of engaging activities were conducted to enhance the

professional development of Creative Arts and Design (CAD) teachers during the four-week PD workshops.

The pedagogy workshops were a central component of the professional development (PD) programme which aimed at equipping Creative Arts and Design (CAD) teachers with advanced pedagogical skills and knowledge. These activities were carefully designed to provide hands-on learning experiences, promote collaboration and reflection, and promote the implementation of innovative instructional strategies. The following details the workshop activities conducted during each week.

Week 1: Orientation and Introduction to Pedagogical Principles

Week One - Orientation Session

In the first week and first day of the professional development (PD) workshops, participants were engaged in an orientation session that served as an introduction to the overarching objectives and structure of the programme. The session commenced with a warm welcome from the researcher and experienced art educationists who served as instructors for the workshops. The experienced educationists and instructors assisted the researcher throughout the workshop, contributing their repertoire of art knowledge, pedagogy and skills to make sure that the PD was successfully implemented. The warm welcome aimed to set a positive tone for the ensuing activities. As such, participants were greeted with enthusiasm and encouragement to trigger a sense of excitement and anticipation for the journey ahead.

The orientation session provided participants with a comprehensive overview of the PD programme's goals, objectives, and expected outcomes. Instructors and the researcher outlined the key themes and focus areas that would be addressed throughout the workshops. They emphasised the relevance and significance of each topic to participants' professional growth and development as CAD teachers. The instructors and researchers sought to instil a sense of purpose and direction

among participants to motivate them to actively engage in the learning process by clearly articulating the programme's objectives.

The orientation session served as an opportunity for instructors to establish rapport with participants and cultivate a supportive learning environment. Instructors encouraged participants to express their expectations, concerns, and aspirations for the PD programme. This move was aimed at creating space for open dialogue and collaboration. Participants were invited to share their prior experiences, challenges, and areas of interest to facilitate a sense of camaraderie and mutual understanding among the group. Throughout the orientation session, instructors emphasised the importance of active participation and engagement in maximising the benefits of the PD programme. Participants were encouraged to approach the workshops with an open mind, a willingness to learn, and a commitment to professional growth. Instructors emphasised the value of collaboration, peer support, and reflective practice in ensuring meaningful learning experiences and driving positive change in participants' teaching practices.

Interactive Sessions on Pedagogical Principles

The interactive sessions focused on key pedagogical principles, including differentiated instruction, project-based learning, and arts integration. The workshops were carefully structured around the Basic 7, Basic 8, and Basic 9 textbooks and teachers' guides, all of which were based on the new Creative Arts and Design curriculum for Junior High Schools (JHS). This alignment ensured that the content was directly relevant and immediately applicable to the teachers' instructional practices. The key pedagogical principles are discussed below.

Differentiated Instruction

The first segment of the workshops focused on differentiated instruction. Differentiated instruction is a teaching approach designed to address the diverse learning needs of students. It involves tailoring teaching methods and materials

to cater to individual differences in students' readiness, interests, and learning profiles. During the interactive sessions, teachers engaged in role-playing exercises and scenario analyses to understand how to implement differentiated instruction effectively. These activities were designed to illustrate the practical application of differentiation in various classroom settings.

In the practical application phase, teachers used the Basic 7, Basic 8, and Basic 9 textbooks and teachers' guides to develop lesson plans incorporating differentiated strategies. For example, they created tiered assignments that offered varying levels of complexity to ensure that all students could engage with the material at an appropriate level. One participant remarked:

"The differentiated instruction session was incredibly useful. It showed me how to modify my lessons to meet the needs of all my students. The textbooks provided great examples that I can use directly in my classroom".

This real-life participant experience highlights the immediate applicability and value of the differentiated instruction techniques learned during the workshop.

Project-Based Learning (PBL)

The next segment of the workshops focused on project-based learning (PBL), which is an instructional approach that encourages students to explore real-world problems and challenges. PBL highlights student-driven inquiry, collaboration, and practical application of knowledge. During the interactive sessions, teachers engaged in collaborative planning activities, brainstorming project ideas that aligned with the curriculum outlined in the Basic 7, Basic 8, and Basic 9 textbooks. These sessions involved detailed discussions on the steps required to implement PBL effectively, from planning and execution to assessment.

During the practical application phase, teachers designed comprehensive PBL units, including timelines, resource lists, and assessment rubrics. They practised

facilitating student-led projects and guiding students through inquiry, research, and presentation phases. One teacher shared their experience, stating:

"Before the workshop, I was unsure about how to manage a project-based learning unit. The practical activities and discussions provided a clear roadmap. Now, I feel ready to implement an art project on local community with my students".

This real-life participant experience stresses the clarity and confidence gained by teachers through the practical activities and discussions on PBL during the workshop.

Technology Integration

The final focus area of the pedagogical principles in the first week of the workshops was technology integration. This approach is rooted in the constructivist theory, which suggests that active engagement and reflective practices are essential for knowledge construction (Schunk, 2012). It incorporates digital tools into teaching, thereby enhancing educational outcomes and fostering interactive learning environments. Technology integration aligns with the Technological Pedagogical Content Knowledge (TPACK) framework (Mishra & Koehler, 2006), which highlights the importance of blending technology, pedagogy, and content knowledge. During the interactive sessions, teachers participated in creative exercises to demonstrate how to use technological tools to teach visual arts, music, drama, and dance. For instance, they experimented with technological tools to draw, compose songs and learn to access open educational resources to teach CAD.

During the practical application phase, teachers designed lesson plans that integrated technology with academic content using the Basic 7, Basic 8, and Basic 9 textbooks and teachers' guides. They developed units by integrating technology

into teaching artistic techniques, which were seamlessly woven into the curriculum. One teacher commented:

"The technology integration session was fantastic. It opened my eyes to how I can make my lessons more engaging by incorporating different technological tools such as computers, smartphones and tablets. The textbooks were incredibly helpful in providing concrete examples and ideas".

Week Two - Pedagogy Workshops

Practical Demonstrations and Hands-On Learning

The pedagogy workshops were designed to bridge the gap between theoretical knowledge and practical application to ensure that Creative Arts and Design (CAD) teachers could effectively implement the new curriculum in their classrooms. These workshops emphasised hands-on learning, which allowed teachers to gain practical experience with the tools and materials essential for teaching art.

Key Practical Lessons

Demonstration Sessions

The workshops began with demonstration sessions where teachers were introduced to key practical lessons. These sessions were led by experienced art educators and the researcher. The demonstrations provided step-by-step instructions on various art techniques and projects that aligned with the new creative arts and design curriculum for Junior High Schools (JHS).

Materials Used: Teachers were provided with a variety of art tools and materials, including:

- Pencils and crayons for drawing and sketching
- Sketchpads for creating initial drafts and final artwork
- Clay for sculpting and creating three-dimensional art pieces
- Papier-mâché for crafting masks, models, and other creative projects

Hands-On Practice

Following the demonstrations by the experienced art educators cum instructors, teachers were stimulated to engage in hands-on practice. These instructors possess at least a master's degree in art education and have been teaching teacher trainees for many years. The participants were encouraged to experiment with the materials provided to practically apply the techniques shown during the demonstrations. This practical approach allowed teachers to gain confidence in using the art tools and materials to effectively teach these techniques to their students.

Using Textbooks and Teachers' Guides: The Basic 7, Basic 8, and Basic 9 textbooks and teachers' guides served as essential resources throughout the workshops. These guides were based on the new creative arts and design curriculum and provided detailed instructions and examples for each art project. Teachers referred to these guides to enable them to follow structured lesson plans, understand the objectives and outcomes of each art project and learn how to integrate theoretical concepts with practical activities.

Participant Experience: One participant shared:

"The hands-on practice was incredibly valuable. Using the materials and following the demonstrations, I felt more confident in my ability to teach these techniques to my students. The textbooks and guides were excellent resources that provided clear instructions and examples".

Practical Projects and Collaborative Learning

Individual and Group Projects

Teachers worked on individual and group projects during the workshops to allow them to apply the techniques they had learned. These projects ranged from simple sketches and clay models to more complex paper-mâché creations. Working in groups fostered collaboration and idea-sharing among teachers,

thereby enhancing their learning experience. Examples of the projects included drawing and shading exercises using pencils and crayons, creating sculptures with clay, focusing on form and texture, and designing and constructing papier-mâché masks, emphasising creativity and craftsmanship.

The group projects encouraged teachers to collaborate, discuss their ideas, and provide feedback to one another. This collaborative environment mirrored the classroom setting, where students often work together on art projects. Teachers learned how to facilitate group work and manage collaborative art activities, which they could later implement in their classrooms. A teacher remarked:

"Working on group projects was a fantastic experience. It helped me see how I can encourage my students to collaborate and learn from each other. The practical activities were enjoyable and educational".

Integrating Theory and Practice

The workshops emphasised the integration of theoretical concepts with practical applications. Teachers learned how to explain the theory behind each art technique and project to ensure that students understood the principles guiding their creative work. This integration was crucial for aligning the practical activities with the curriculum objectives outlined in the textbooks and guides. The focus areas included pedagogical principles such as differentiated instruction, where teachers learned how to tailor art projects to accommodate different skill levels and learning styles, and project-based learning, in which the workshops demonstrated how to structure art projects as extended learning experiences to engage students in inquiry and creativity. Another participant noted:

"The integration of theory and practice was very effective. It helped me understand how to explain the concepts behind each art project, making the lessons more meaningful for my students".

In summary, the practical focus of the workshops significantly enhanced the teachers' skills and confidence in teaching Creative Arts and Design (CAD). The hands-on experience, combined with the guidance provided by the Basic 7, Basic 8, and Basic 9 textbooks and teachers' guides, equipped teachers with the tools and knowledge necessary to implement the new curriculum effectively. The researcher observed high levels of engagement and enthusiasm among the teachers. He noted that the interactive and practical nature of the workshops cultivated a positive learning environment where teachers felt supported and motivated to improve their teaching practices. Thus, the pedagogy workshops provided CAD teachers with valuable hands-on experience, practical skills, and comprehensive resources. The workshops ensured that teachers were well-prepared to deliver the new Creative Arts and Design curriculum by focusing on practical demonstrations, individual and group projects, and the integration of theory and practice. This holistic approach to professional development ultimately aimed to enhance the quality of art education in Junior High Schools.

Group Discussions

During the professional development workshops, an essential component involved facilitating small-group discussions among the participating teachers. Teachers engaged in small-group discussions to share their experiences and insights on effective teaching practices in art education. These group discussions provided a platform for CAD teachers to engage in meaningful dialogue, share their experiences, and exchange insights on effective teaching practices in the field of art education. The group discussions were structured to encourage active participation and collaboration among the teachers. Participants were divided into smaller groups to allow for more intimate and focused conversations. Each group was facilitated by a trained moderator or facilitator who guided the discussion and ensured that all participants had an opportunity to contribute.

Teachers shared their experiences and reflections on various aspects of art education, including instructional strategies, classroom management techniques,

assessment methods, and student engagement strategies. They discussed real-life challenges they encountered in their teaching practice and brainstormed potential solutions and best practices. Through these group discussions, teachers had the opportunity to learn from one another, draw inspiration from different teaching approaches, and gain new perspectives on how to enhance their instructional effectiveness. The collaborative nature of the discussions ensured a sense of friendship and community among the participants, hence creating a supportive and empowering learning environment.

Additionally, the group discussions served as a platform for peer learning and professional networking. Teachers exchanged ideas, resources, and teaching materials. They provided valuable insights and feedback to one another. They built relationships with colleagues from diverse backgrounds and educational settings, thereby expanding their professional networks and cultivating a sense of belonging within the broader community of art educators.

Week 3: Assessment Strategies and Feedback

During the third week of the professional development programme, the focus was on enhancing teachers' skills in assessing student learning and creative expression in Creative Arts and Design (CAD). The week commenced with a series of workshops designed to cover both formative and summative assessment methods. These sessions provided teachers with strategies to monitor student progress and evaluate final outcomes effectively. Teachers explored formative assessment techniques, including observational checklists, student self-assessments, and peer assessments, to provide immediate feedback and guide instructional adjustments. Practical sessions on rubric design enabled teachers to create clear and comprehensive rubrics tailored to specific art projects, accurately measuring creativity, technique, and conceptual understanding. Additionally, the concept of portfolio assessment was introduced to allow for a holistic view of student progress over time.

Integral to this week were peer review sessions where CAD teachers reviewed and provided constructive feedback on each other's lesson plans, assessment tools, and student work samples. These sessions facilitated feedback exchange, collaborative learning, and professional growth by encouraging teachers to share best practices and innovative ideas. The week concluded with guided reflection exercises and group discussions, promoting reflective practice among teachers. These activities encouraged critical analysis of current assessment strategies, with teachers identifying strengths and areas for improvement. Through self-assessment, guided reflection, and goal setting, teachers were able to set specific, actionable goals for enhancing their assessment practices.

Week 4: Culminating Projects and Action Plans

The final week of the professional development programme was dedicated to consolidating and showcasing the knowledge and skills acquired by CAD teachers over the previous weeks. The week began with a project showcase, where teachers presented their culminating projects. These projects highlighted the integration of new pedagogical strategies, technology tools, and assessment techniques into their teaching practice. Each presentation demonstrated how teachers applied differentiated instruction, project-based learning, and arts integration in their classrooms, utilising the Basic 7, Basic 8, and Basic 9 textbooks and teachers' guides as foundational resources.

Following the showcase, the focus shifted to action planning. Teachers developed individual action plans outlining specific goals and objectives for implementing the strategies and techniques they had learned during the workshops. These plans included timelines, resources needed, and measurable outcomes to ensure that teachers had a clear roadmap for applying their new skills in real classroom settings. This exercise encouraged a sense of ownership and commitment among the teachers, as they prepared to translate their professional development experiences into tangible educational improvements.

The week, and indeed the entire programme, concluded with a feedback and reflection session. During this session, teachers provided valuable input on the PD programme. They discussed what worked well and suggested areas for improvement. This reflective practice allowed teachers to articulate their learning journey, share insights, and solidify their understanding. The feedback gathered from these discussions was instrumental in refining future professional development efforts to ensure they remained responsive to teachers' needs.

4.4.2 Participants Observation and Feedback

The level of engagement among participants during the workshops was notably high and showcased their enthusiasm and commitment to professional development in Creative Arts and Design (CAD) education. This heightened engagement was observed across various dimensions of the four-week programme. The active engagement by teachers indicated a deep interest and a proactive approach to improving their teaching practices. Several factors contributed to the active participation and engagement observed, which collectively enhanced the general effectiveness of the professional development initiative. These factors are enumerated and elaborated in the following text.

Interactive Learning Environment

Throughout the workshops, participants were fully immersed in an interactive learning environment that promoted collaboration, engagement and shared learning experiences. One participant remarked,

"I really appreciated how the workshops were structured to encourage active participation. We weren't just passive listeners; we were actively involved in discussions, activities, and group exercises".

This sentiment was echoed by several other participants who appreciated the opportunity to actively contribute to the learning process.

The workshops incorporated various interactive elements, including group discussions where participants exchanged ideas, shared best practices, and discussed challenges they faced in their teaching practice. As another participant, noted,

"The group discussions were incredibly valuable because we were able to learn from each other's experiences. It was enlightening to hear different perspectives and approaches to teaching CAD".

Hands-on activities were also a key feature of the workshops. They provided participants with opportunities to apply newly acquired knowledge and skills in practical contexts. A CAD teacher, shared her experience, saying,

"I loved the hands-on activities because they allowed us to put theory into practice. We got to experiment with different teaching techniques and explore creative ways to engage our students".

Additionally, the facilitators encouraged active participation by creating a supportive and inclusive atmosphere where participants felt comfortable sharing their thoughts and ideas. A first-time workshop attendee, expressed his appreciation, stating,

"I was initially hesitant to speak up in group settings, but the facilitators did a fantastic job of creating a welcoming environment. I felt encouraged to voice my opinions and contribute to discussions".

The interactive learning environment of the workshops proved to be highly effective in promoting engagement and knowledge sharing among participants.

Therefore, participants were able to deepen their understanding of CAD teaching principles and exchange valuable insights with their peers by actively participating in discussions, group activities, and hands-on exercises.

Relevant Content

Participants found the content to be highly relevant and tailored to their specific needs as CAD teachers. One participant expressed his satisfaction, stating,

"I was impressed by how the content was tailored to address the challenges we face in our day-to-day teaching. The topics covered were exactly what I needed to enhance my teaching practice".

This sentiment was echoed by others who appreciated the focus on pedagogical principles, technology integration, assessment strategies, and innovative teaching approaches.

The topics addressed during the workshops were carefully selected to align with the professional development needs identified during the needs assessment phase of the study. As a participant noted:

"The topics were spot-on. It was evident that the facilitators had taken the time to understand our needs as CAD teachers and had tailored the content accordingly".

This personalised approach to content delivery contributed to the participants' overall satisfaction and engagement with the workshops.

In addition, the relevance of the content sparked participants' interest and enthusiasm for learning. A younger CAD teacher, remarked:

"I found myself genuinely excited to learn about the different teaching strategies and technologies presented during the workshops. The content was so relevant

and practical that I could immediately see how I could apply it in my own classroom".

This enthusiasm was palpable throughout the workshops, with participants actively engaging with the content and eagerly participating in discussions and activities. Therefore, the relevance of the content played a crucial role in the success of the workshops. It ensured that participants remained engaged and motivated to learn. Therefore, the workshops effectively met the participants' expectations and provided valuable insights and strategies to enhance their teaching practice by addressing their specific needs and interests as CAD teachers.

Practical Experience

Participants were encouraged to actively engage in practical application exercises, which facilitated the immediate integration of new concepts and strategies into their teaching practice. One participant reflected on this aspect, stating,

"I appreciated how the workshops didn't just focus on theory but also provided opportunities for us to apply what we were learning in real-time. The hands-on activities and collaborative projects allowed me to experiment with different teaching techniques and see how they worked in practice".

The emphasis on practical application was evident in the structure of the workshops, which included a variety of interactive activities and exercises designed to simulate real-world teaching scenarios. For example, participants engaged in role-playing exercises where they took on the role of both teacher and student, thereby allowing them to experience firsthand the challenges and opportunities associated with different teaching strategies. These activities provided a safe and supportive environment for participants to experiment with new approaches and receive constructive feedback from their peers.

Furthermore, collaborative projects were incorporated into the workshops to give participants the opportunity to work together to develop lesson plans, design instructional materials, and create assessment tools. This collaborative approach encouraged teamwork and friendship among participants while providing them with practical experience in curriculum development and instructional design.

Peer review sessions further enhanced the practical application of workshop content by enabling participants to receive real-time feedback on their teaching practices. Participants were paired or grouped together to review and provide feedback on each other's lesson plans, teaching materials, or classroom activities. This peer feedback process allowed participants to gain valuable insights into their teaching strengths and areas for improvement while honing their ability to critically evaluate instructional materials and teaching strategies. The emphasis on practical application was a key feature of the workshops because it enabled participants to translate theoretical knowledge into actionable strategies for their teaching practice. Therefore, participants were able to deepen their understanding of new concepts and develop the confidence and skills necessary to implement them effectively in their classrooms by engaging in hands-on activities, collaborative projects, and peer review sessions.

Peer Collaboration

Peer collaboration emerged as a pivotal component of the workshop experience. It significantly enhanced participant engagement and cultivated a supportive learning environment. Participants actively engaged in collaborative activities, exchanging ideas, sharing resources, and working together on various projects throughout the workshops. One participant remarked,

"The opportunity to collaborate with my fellow teachers was incredibly valuable. We were able to brainstorm ideas, share our experiences, and support each other in implementing new strategies".

This sentiment was echoed by several other participants, thereby highlighting the importance of peer collaboration in their learning process.

The researcher observed numerous instances of peer collaboration during the workshops, with participants forming small groups or pairs to tackle various tasks and activities. For example, during group discussions on instructional approaches, participants exchanged teaching tips and strategies based on their experiences in the classroom. Additionally, collaborative projects, such as designing lesson plans or creating instructional materials, provided participants with opportunities to work together towards common goals. The researcher noted that these collaborative activities sparked lively discussions and encouraged participants to actively contribute their insights and perspectives.

Peer collaboration not only facilitated knowledge sharing but also encouraged a sense of community among participants. The researcher observed instances where participants offered support and encouragement to their peers, particularly those who were less experienced or facing severe challenges in their teaching practice. This supportive atmosphere created a safe space for participants to seek advice, share concerns, and celebrate successes together. As one participant expressed,

"The sense of cordiality among us teachers was incredible. We were all in this together, supporting each other every step of the way".

Additionally, the researcher noted that peer collaboration extended beyond the workshop sessions, with participants continuing to connect and collaborate outside of scheduled activities. Participants exchanged contact information and formed professional networks, which enabled them to stay in touch and continue learning from one another even after the workshops concluded. This ongoing collaboration served to reinforce the bonds formed during the workshops and

provided participants with a valuable support system as they implemented new strategies in their classrooms.

In summary, peer collaboration played a central role in enhancing participant engagement and facilitated a sense of community and collective learning during the workshops. Through collaborative activities and supportive interactions, participants were able to leverage the expertise and experiences of their peers, ultimately enhancing their professional development as educators.

Reflective Practice

Reflective practice also emerged as a cornerstone of the workshop experience. It provided participants with valuable opportunities to introspect, evaluate their teaching practices, and set goals for professional development. Throughout the workshops, participants engaged in reflective exercises and discussions that encouraged them to critically examine their approaches to teaching and learning. One participant shared his experience, stating,

"The reflective exercises really made me pause and think about my teaching methods. It helped me identify areas where I could improve and gave me direction for my professional development".

The researcher observed that reflective practice was integrated into various aspects of the workshops, including group discussions, individual activities, and facilitated reflections led by workshop facilitators. During group discussions, participants shared their insights and reflections on specific teaching scenarios or challenges they had encountered in their classrooms. These discussions provided participants with diverse perspectives and allowed them to gain new insights into their teaching practice. Individual reflective activities encouraged participants to engage in introspection and self-assessment. Participants were given prompts or guiding questions to help them reflect on their teaching practices, instructional strategies, and interactions with students. These activities

prompted participants to consider their strengths, weaknesses, and areas for growth as educators.

Facilitated reflections led by workshop facilitators provided structured opportunities for participants to reflect on their learning experiences and set goals for professional development. Facilitators guided participants through a process of self-reflection, thereby encouraging them to identify specific actions they could take to enhance their teaching practice. These reflections were often followed by action planning sessions, where participants developed concrete plans for implementing these goals in their classrooms.

The researcher noted that reflective practice promoted deeper engagement among participants and facilitated continuous learning throughout the workshops. Participants demonstrated a willingness to engage in self-reflection and were eager to share their insights and experiences with their peers. Reflective exercises encouraged participants to take an active role in their professional development by empowering them to identify areas for improvement and take proactive steps towards growth.

Moreover, the researcher observed that reflective practice extended beyond the workshop sessions, with participants incorporating reflective techniques into their daily teaching practice. Many participants expressed a newfound appreciation for reflective practice and indicated their intention to continue engaging in reflective activities as part of their ongoing professional development journey. Therefore, reflective practice played a vital role in enhancing participant engagement and facilitating meaningful learning experiences during the workshops. Therefore, reflective exercises empowered participants to take ownership of their professional development and strive for continuous improvement as educators by encouraging them to critically reflect on their teaching practices and set goals for growth.

Instructor Support

Instructor or facilitator support also emerged as a key factor in ensuring participant engagement and facilitating a positive learning environment during the workshops. Participants consistently highlighted the invaluable role played by the facilitators in guiding and supporting their learning journey. One participant remarked,

"The instructors were extremely supportive and approachable. They created a safe space where we felt comfortable asking questions and sharing our thoughts".

The researcher observed that instructors demonstrated a genuine commitment to supporting participants' learning by providing guidance, encouragement, and constructive feedback. From the outset, instructors established rapport with participants, thereby creating a welcoming atmosphere that encouraged open communication and collaboration. Throughout the workshops, instructors were readily accessible to address participants' queries, clarify concepts, and provide additional assistance as needed. Instructors leveraged their expertise in art education and professional development to create engaging and relevant learning experiences for participants. They drew upon a wealth of practical knowledge and real-world experience to enrich workshop sessions with meaningful examples, case studies, and best practices. Therefore, instructors inspired participants and instilled confidence in their ability to apply new concepts and strategies in their own teaching practice by sharing their insights and expertise.

Facilitators also demonstrated a high level of enthusiasm and passion for the subject matter, which proved contagious and energising for participants. Their enthusiasm for teaching and learning inspired participants to actively engage in workshop activities, participate in discussions, and embrace new ideas and perspectives. Participants were motivated by the instructors' passion and dedication, which created a positive and dynamic learning environment which was conducive to growth and exploration.

The researcher also noted that facilitators were highly responsive to participants' needs and preferences. They adapted their teaching approaches and strategies to accommodate diverse learning styles and preferences. Instructors actively solicited feedback from participants and used this feedback to refine workshop activities, address areas of concern, and tailor instruction to meet participants' individual needs. This responsiveness created a sense of partnership and collaboration between instructors and participants, further enhancing engagement and satisfaction with the workshops.

In summary, instructor support played a crucial role in nurturing participant engagement and facilitating a positive and supportive learning environment during the workshops. Instructors empowered participants to take ownership of their learning journey and achieve their professional development goals by providing guidance, encouragement, and constructive feedback. Their expertise, enthusiasm, and responsiveness were instrumental in creating a rewarding and impactful learning experience for all participants involved.

4.5 PHASE FOUR: EVALUATION OF THE PROFESSIONAL DEVELOPMENT PROGRAMME

4.5.1 Quantitative Data on CAD Teachers' Skills and Practices

The Professional Development (PD) programme had a significant positive impact on the skills, confidence, and teaching practices of CAD teachers. This section presents quantitative data collected through pre- and post-programme surveys, classroom observations by teachers, and self-assessment tools, thereby highlighting the measurable changes observed in the following areas.

Improvement in Teaching Skills

The Professional Development (PD) programme significantly enhanced the teaching skills of CAD teachers, as evidenced by quantitative self-assessment data. Before the programme began, teachers rated their teaching skills on a scale

of 1 to 10, with the average self-assessed score being 4.2. This relatively low score indicated a lack of confidence and proficiency in their teaching abilities. However, after completing the PD programme, the teachers reassessed their skills, and the average score rose to 8.1. This marked improvement, quantified as a 65.8% increase, highlights the substantial impact of the PD programme on the participants. The programme's focus on practical application, interactive sessions, and hands-on activities likely contributed to this growth. It enabled teachers to develop and refine their instructional techniques effectively. This notable enhancement in teaching skills stresses the effectiveness of the PD programme in empowering CAD teachers with the necessary tools and strategies to improve their classroom practices and ultimately benefit their students.

Enhanced Confidence Levels

The Professional Development (PD) programme had a profound impact on the confidence levels of CAD teachers. Initially, the average confidence level of the teachers, measured on a scale of 1 to 10, stood at 4.8. This low score reflected the teachers' apprehension and uncertainty about their ability to effectively teach Creative Arts and Design. However, following the completion of the PD programme, this average confidence level surged to 7.9. This substantial increase represents a 64.6% boost in the teachers' confidence. The PD programme's comprehensive approach, which included interactive workshops, practical applications, and collaborative projects, played a crucial role in this enhancement. Therefore, the programme equipped the CAD teachers with the knowledge and skills necessary to feel more assured in their teaching capabilities by providing them with hands-on experience, practical strategies, and supportive peer interactions. This remarkable improvement in confidence levels is a testament to the programme's effectiveness in empowering teachers and advancing a positive shift in their professional self-perception.

Adoption of New Teaching Practices

The Professional Development (PD) programme significantly influenced the adoption of innovative teaching practices among CAD teachers. Prior to the programme, only 30% of teachers regularly implemented differentiated instruction strategies in their classrooms. However, this figure soared to 75% post-programme. It demonstrates a substantial shift towards accommodating diverse student needs through tailored teaching methods. Similarly, integrating technology tools into classroom instruction experienced a remarkable rise, increasing from 25% to 70%. This indicates that most teachers embraced digital resources to enhance student engagement and learning outcomes. The adoption of project-based learning (PBL) also saw notable growth, with the percentage of teachers employing PBL approaches climbing from 20% to 65%. This shift emphasises the teachers' move towards facilitating student-driven inquiry and real-world problem-solving.

Student Engagement and Learning Outcomes

The Professional Development (PD) programme not only transformed teaching practices but also positively impacted student engagement and learning outcomes in Creative Arts and Design (CAD) education. According to teacher reports, there was a notable surge in student engagement levels, with 85% of teachers observing increased participation and interest in CAD lessons. This heightened engagement may be attributed to the implementation of interactive and student-centred teaching methods introduced during the PD workshops. Furthermore, preliminary data from student assessments revealed a significant improvement in student achievement scores. On average, there was a 20% increase in student performance in CAD subjects, which reflects the effectiveness of the new instructional strategies and the enhanced teaching skills of the educators. This boost in student achievement justifies the programme's success in promoting a more engaging and productive learning environment, ultimately contributing to better educational outcomes in the CAD curriculum.

Classroom Observations

Classroom observations conducted before and after the Professional Development (PD) programme by teachers highlighted significant improvements in the effective use of pedagogical strategies by CAD teachers. Initial observations rated the effective use of these strategies at an average of 4.5 out of 10, indicating substantial room for improvement. However, following the completion of the PD programme, post-programme observations showed a marked improvement, with an average rating rising to 7.8 out of 10. This considerable enhancement represents a 73.3% increase in the effective use of pedagogical strategies observed in the classroom. The notable progress reinforces the impact of the PD programme in equipping teachers with advanced instructional techniques, thereby fostering a more dynamic and effective teaching environment for CAD education.

Feedback on PD Programme Effectiveness

The feedback on the Professional Development (PD) programme's effectiveness was overwhelmingly positive, thereby reflecting high levels of participant satisfaction and endorsement. A remarkable 90% of the participants rated the PD programme as either highly effective or effective in enhancing their teaching skills and practices. This high satisfaction rate underscores the programme's success in addressing the professional needs of CAD teachers and equipping them with practical strategies and tools for classroom implementation. Additionally, the willingness of participants to recommend the PD programme to their peers was equally notable, with 95% expressing their readiness to advocate for the programme among their colleagues. This strong recommendation rate not only highlights the programme's perceived value but also suggests a broader impact on the teaching community, as word-of-mouth endorsements are likely to encourage wider participation and dissemination of the programme's benefits. Wholistically, the positive feedback indicates that the PD programme was both well-received and impactful, thereby cultivating a supportive and collaborative professional development environment for CAD teachers.

4.5.2 Qualitative Insights from Interviews

The qualitative insights from interviews with Creative Arts and Design (CAD) teachers revealed a deep appreciation for the Professional Development (PD) programme and provided a rich understanding of its impact on their teaching practices and professional growth. Teachers shared numerous reflections and experiences that highlighted both the strengths and areas for improvement in the programme.

Positive Experiences

The positive experiences shared by the CAD teachers highlighted the practical nature of the workshops as a key strength. Many teachers noted that the hands-on activities and real-world applications were particularly valuable, as they provided concrete examples and immediate opportunities to practice new techniques. One teacher remarked,

"The interactive sessions were amazingly engaging. Being able to practice new techniques and receive immediate feedback was a game-changer for my teaching".

This sentiment was echoed by several participants who appreciated the chance to apply what they learned directly to their classroom settings, thereby bridging the gap between theory and practice. The workshops' emphasis on practical application allowed teachers to develop a deeper understanding of the pedagogical strategies being taught, which resulted in a more confident and skilled approach to their teaching. This immediate applicability not only enhanced their teaching practices but also motivated them to experiment with and implement these new strategies to benefit their students' learning experiences. The practical focus of the workshops thus played a crucial role in the overall success of the professional development programme, as it resonated strongly with the teachers and addressed their need for actionable, real-world solutions.

Enhanced Confidence and Skills

A recurrent theme in the interviews was the significant boost in confidence and teaching skills among the participants. Teachers indicated that the professional development (PD) programme not only expanded their knowledge of Creative Arts and Design (CAD) pedagogy but also empowered them to experiment with new instructional strategies. One teacher noted,

"Before the programme, I was hesitant to try project-based learning, but now I feel equipped and excited to implement it. The resources and support provided were exceptional".

This sentiment reflects a broader trend among participants who felt that the programme had demystified complex teaching methodologies and made them easily accessible and actionable. The structured guidance, coupled with ample resources such as textbooks and hands-on materials, helped teachers transition from theoretical understanding to practical application. As a result, many reported a newfound enthusiasm for incorporating innovative teaching techniques into their classrooms. The confidence gained from the PD programme translated into a willingness to take risks and adapt their teaching styles to better meet the diverse needs of their students. Therefore, the enhanced confidence and skills observed among the teachers underscore the effectiveness of the PD programme in promoting professional growth and improving educational outcomes in CAD.

Collaborative Learning Environment

The collaborative aspect of the workshops was frequently highlighted as a key benefit by the participants. Teachers consistently emphasised the value of peer interactions and the sense of community that developed over the four weeks. One participant remarked,

"The group discussions and peer review sessions were helpful. Sharing ideas and learning from my colleagues opened up new perspectives and teaching methods I hadn't considered before".

This collaborative learning environment cultivated a culture of mutual support and collective problem-solving, which enabled teachers to exchange insights and practical strategies. The workshops provided a platform for teachers to discuss challenges and brainstorm solutions together, which not only enhanced their professional development but also built a strong network of support among the participants. Teachers were exposed to a variety of teaching styles and approaches, which enriched their own practice by engaging in collaborative exercises. The cordiality and shared experiences created a dynamic and interactive learning space, where teachers felt comfortable to experiment and innovate. In all, the collaborative learning environment significantly contributed to the success of the PD programme and promoted continuous learning and improvement among the CAD teachers.

Challenges and Suggestions for Improvement

Despite the positive feedback, some teachers pointed out areas for enhancement in the PD programme. A few participants mentioned that the intensity and pace of the programme were challenging, which suggested that extending the duration could allow for more in-depth exploration of certain topics. One teacher remarked,

"The workshops were really informative, but at times, it felt like there was so much to absorb in a short period. A longer programme would give us more time to delve deeper into each topic".

Additionally, while the integration of technology was widely praised, some teachers indicated a need for more advanced training on specific digital tools and resources.

"I appreciated the introduction to various technology tools", said one participant, "but I would benefit from more detailed sessions on how to use these tools effectively in my classroom".

These suggestions emphasise the importance of pacing and depth in professional development programmes, as well as the necessity for ongoing support and training in emerging technologies. Future iterations of the PD programme can be even more effective in meeting the needs of CAD teachers by addressing these areas.

CHAPTER FIVE: DATA INTERPRETATION

Chapter Five focuses on the interpretation of data collected through the various methods discussed in Chapter Three and the implementation of the phases of the professional development (PD) programme for Creative Arts and Design (CAD) teachers during the course of this study. The primary objective of this chapter is to provide a detailed analysis and interpretation of the quantitative and qualitative data gathered during the needs analysis, design, implementation, and evaluation phases. This comprehensive interpretation helps to understand the impact of the PD programme on the participants' teaching skills, confidence levels, and classroom practices, as well as the broader implications for CAD education. The interpretation was guided by the research objectives outlined at the beginning of the study to ensure that the interpretation remains focused and relevant by correlating the results with existing literature to provide a well-rounded understanding of the data.

5.1 INTERPRETATION OF THE NEEDS ANALYSIS PHASE – OBJECTIVE ONE

The interpretation of findings from the Needs Analysis Phase, corresponding to objective one of this study and corresponding to the problem identification and collaborative diagnosis under action science research, reveals substantial deficiencies, including but not limited to the qualifications, training, and resources available to Creative Arts and Design (CAD) teachers. This objective aimed to assess the current state of CAD education and identify gaps that impede effective teaching.

5.1.1 Interpretation of Quantitative Data Teaching Experience and Qualifications

The analysis of teaching experience among respondents indicated that a substantial portion of teachers (48.1%) had over ten years of experience, which highlights the presence of a seasoned teaching workforce. Conversely, teachers

with five or fewer years of experience constituted the smallest group (25.5%), while those with six to ten years comprised 26.4%. On average, teachers had approximately nine years of teaching experience, reflecting a significant depth of proficiency. This aligns with the findings of Harris and Sass (2011), who emphasise that experienced teachers tend to be more effective in delivering educational content, particularly in specialised subjects like Creative Arts and Design. However, despite this experience, the data suggested a need for professional development (PD) programmes to enhance teachers' skills, specifically in CAD pedagogy and technology integration, as supported by Guskey (2002).

The data showed that a substantial proportion of teachers possess a Bachelor of Education (BEd) degree, with 40.6% holding this qualification. This indicates a solid foundation in educational theory and practice among the majority of respondents. Additionally, 21.7% of teachers had a Diploma in Basic Education (DBE), and 16.0% held a Bachelor of Arts (BA) degree. This variety reflects a blend of general education and more advanced training among CAD teachers. However, the data also suggested a critical gap in creative art-specific qualifications. The necessity of educational degrees within the Ghanaian education system is evident, but the lack of specificity in creative arts qualifications is concerning. This aligns with findings from Darling-Hammond (2006), who noted that the relevance of teachers' qualifications to their subject matter significantly impacts their effectiveness.

Specialisation data further re-echoed this issue. Regarding the data on teachers' senior high school specialisations, the diversity in academic backgrounds among CAD teachers was evident, with the highest proportion holding General Arts qualifications (27.4%), and the smallest group specialising in Visual Art (7.5%). This suggests that a significant number of CAD teachers lack specific training in visual arts, potentially impacting their ability to effectively teach the subject. The

necessity for specialised training is corroborated by Ball and Forzani (2009), who argue that teachers' content-specific knowledge is crucial for effective teaching.

Concerning teachers' tertiary education programme specialisations, the highest proportions of CAD teachers specialised in Social Studies (19.8%) and Catering (16.0%), while only 5.7% specialised in Visual Art. This disparity implies that a staggering 94.3% of CAD teachers did not specialise in creative arts during their tertiary education. However, many were compelled to teach the subject despite lacking the necessary background. This misalignment between teachers' qualifications and their teaching responsibilities can negatively impact the quality of art education, as suggested by Shulman (1987), who emphasised the importance of subject-specific pedagogical knowledge.

Furthermore, the recent teaching experiences of respondents showed a predominant focus on Basic Design and Technology (BDT) subjects other than Visual Art. Specifically, 22.6% of teachers had recently taught BDT-Home Economics, and 19.8% have taught BDT-Technical. In contrast, only 8.5% had taught BDT-Visual Art under the old curriculum. This means that 91.5% of the respondents had little to no practical experience in teaching Visual Art. This highlighted a significant gap in relevant teaching experience.

Challenges in Teaching CAD

The survey highlighted significant challenges in teaching CAD, with 92.5% of teachers finding it difficult, primarily due to inadequate content knowledge and practical skills. This situation is exacerbated by the lack of resources, as 97.2% of respondents reported not having the necessary tools and materials for effective teaching. This resource gap is a critical barrier to implementing practical demonstrations and engaging students, as discussed by Fullan (2007), who stresses the importance of adequate resources in educational reform.

Professional Development Needs

The findings showed a clear need for professional development, with 50% of teachers not having received any employer-sponsored training, and the majority of those who had attended training sessions found them to be too brief (one or two days). Furthermore, 87.7% believed the training duration was inadequate, and 84.9% felt the training did not equip them with the necessary content and pedagogical skills. Therefore, all respondents expressed a willingness to attend additional training which reflected a strong desire for professional growth and better instructional practices. This unanimous willingness highlighted the teachers' recognition of their professional development needs and their commitment to improving their teaching skills, which is essential for the successful implementation of the CAD curriculum. Again, this significant gap in professional development underscored the necessity for a comprehensive training programme tailored to CAD teachers' specific needs, aligning with the recommendations of Guskey (2002) on effective professional development practices.

5.1.2 Interpretation of Qualitative Data

The focus-group discussions with headteachers highlighted a pervasive shortage of qualified CAD teachers, which reflects a systemic issue of inadequate training and professional development opportunities. This finding aligns with the literature, which frequently cites the scarcity of specialised art educators as a barrier to quality arts education (Opoku-Asare et al. 2015; Eisner 2003; Eisner, 1998). The analysis also uncovered that the available training programmes are not only insufficient in duration but also lack the depth needed to equip teachers with the necessary skills and confidence. This is corroborated by Desimone (2009), who argues that effective professional development must be sustained, intensive, and focused on specific content areas. The headteachers' feedback on the ineffectiveness of current training sessions stresses the necessity for a more robust and comprehensive approach to teacher education in the arts.

The study also found significant issues with policy implementation, where decisions made at higher administrative levels do not reflect the on-ground realities of schools. This highlights the need for policymakers to engage more closely with practitioners to ensure that policies are feasible and adequately supported (Davies 2000). The reluctance of teachers to accept CAD assignments, particularly in rural areas, due to a lack of training and support mirrors broader trends in teacher deployment challenges. This study's findings on forced assignments and suboptimal teaching outcomes further reflect systemic issues in the allocation and support of teaching staff (Opoku-Asare et al. 2015). Thus, the Needs Analysis Phase clearly indicates that without significant improvements in teacher training, resource allocation, and policy alignment, the quality of CAD education will remain compromised. These findings are consistent with existing literature on the challenges faced by arts educators and emphasise the urgent need for targeted, practical, and sustained professional development programmes (Guskey 2002; Darling-Hammond et al. 2017).

5.2 INTERPRETATION OF THE DESIGN PHASE – OBJECTIVE TWO

The recommendations provided by art educationists during the design phase, which corresponds to the action planning step in action science research, stressed the multifaceted nature of the effective professional development (PD) programme, which caters for the needs of Creative Arts and Design (CAD) teachers. This comprehensive approach emphasised the necessity of hands-on learning experiences, personalised learning pathways, and ongoing support mechanisms. Such elements are crucial in addressing the diverse needs of teachers and enhancing their instructional practices in art education.

Hands-On Learning Experiences

The emphasis on hands-on learning experiences aligns with the constructivist theory of education, which posits that learners construct knowledge through active engagement and practical experiences (Schunk 2012). This approach is particularly relevant in art education, where practical skills and creative

expression are very crucial. Incorporating hands-on activities in PD programmes allowed teachers to directly apply new techniques and methodologies to improve their confidence and proficiency. This finding aligns with the findings of Darling-Hammond et al. (2009), who highlight the effectiveness of experiential learning in teacher professional development.

Personalised Learning Pathways

Personalised learning pathways, as one of the factors considered in designing the PD, are essential for addressing the individual needs and professional goals of teachers. This approach recognises that teachers come from diverse backgrounds and have varying levels of expertise and experience in art education. For that reason, tailoring PD programmes to meet these individual needs ensures that each teacher can progress at their own pace and focus on areas that are most relevant to their instructional context. This concept is supported by the work of Tomlinson (2001), who advocates for differentiated instruction in both student and teacher learning to maximise effectiveness.

Ongoing Support Mechanisms

Ongoing support mechanisms are critical for sustaining the impact of professional development over time. Continuous support, such as mentoring, coaching, and peer collaboration, helps teachers implement new strategies and overcome challenges in their practice. This sustained engagement ensures that the benefits of PD are not transient but lead to long-term improvements in teaching quality. According to Guskey (2002), effective professional development requires continuous follow-up and support to help teachers integrate new knowledge and skills into their practice effectively.

Empowerment and Instructional Practice Enhancement

The integration of these elements—hands-on learning, personalised pathways, and ongoing support—empowers teachers to enhance their instructional practices. Through practical, relevant, and sustained professional development,

teachers are better equipped to engage students and foster a more dynamic and effective learning environment. This holistic approach to PD is essential for meeting the evolving demands of art education and ensuring that teachers can inspire creativity and critical thinking in their students. The emphasis on multifaceted PD is corroborated by various studies highlighting the importance of comprehensive and sustained professional development. For instance, Darling-Hammond et al. (2017) emphasise that effective PD should be contextually relevant and provide opportunities for active learning and collaboration. Similarly, Desimone (2009) outlines core features of effective professional development, including content focus, active learning, coherence, duration, and collective participation, all of which are reflected in the recommendations for the CAD PD programme.

5.3 INTERPRETATION OF THE IMPLEMENTATION PHASE – OBJECTIVE THREE

The interpretation of findings from the Implementation Phase, corresponding to objective three of this study and corresponding to the implementation and reflection learning steps in action science research, provides a detailed insight into the practical application and effectiveness of the designed professional development (PD) programme for Creative Arts and Design (CAD) teachers. The implementation phase of the professional development (PD) programme was crafted to include activities that provided hands-on learning experiences, promoted collaboration and reflection, and encouraged the adoption of innovative instructional strategies. This multi-dimensional approach is crucial for enhancing the effectiveness of PD programmes and has been widely supported in educational research.

Hands-On Learning Experiences

Including hands-on learning experiences was a central component of the PD programme, aligning with constructivist learning theory. Constructivism asserts that learners construct knowledge through active engagement and direct

interaction with the material (Schunk 2012). In the context of Creative Arts and Design (CAD) education, hands-on activities enable teachers to practice and refine new techniques in a practical setting. This approach not only increases their proficiency but also boosts their confidence in applying these techniques in the classroom. Research by Darling-Hammond et al. (2009) supports this, indicating that experiential learning is one of the most effective forms of professional development.

Promoting Collaboration and Reflection

Collaboration and reflection were key elements in the design of the PD activities. Through a collaborative learning environment, teachers were able to share ideas, discuss challenges, and provide feedback to one another. This mirrors the principles of Professional Learning Communities (PLCs), which emphasise the importance of social interactions and collective inquiry in professional growth (Friedman, 2008; Wenger, 1998). Reflective practices were encouraged throughout the programme. Reflective practices allowed teachers to critically assess their instructional strategies and consider how to integrate new insights into their teaching. This process of reflection is vital for continuous improvement and professional development.

Encouraging Innovative Instructional Strategies

The programme's focus on innovative instructional strategies aimed to equip teachers with new approaches to teaching that could enhance student engagement and learning outcomes. Strategies such as differentiated instruction, project-based learning (PBL), and technology integration were introduced and practiced. These methods are known to cater for diverse learning styles and needs, promoting a more inclusive and effective educational environment (Tomlinson 2001). The PD programme's structure ensured that teachers not only learned about these strategies but also had opportunities to implement and refine them through hands-on activities and collaborative discussions.

The effectiveness of the implementation phase is supported by various studies in the field of education. For instance, Darling-Hammond et al. (2017) highlight that effective PD should provide opportunities for active learning and collaboration, which are essential for translating new knowledge into practice. Desimone (2009) further identifies core features of successful PD programmes, including content focus, active learning, coherence, duration, and collective participation. The PD programme in this study incorporated these elements, contributing to its success.

5.4 INTERPRETATION OF THE EVALUATION PHASE – OBJECTIVE FOUR

The interpretation of findings from the Evaluation Phase, corresponding to objective four of this study and the evaluation step of action science research, offers a comprehensive assessment of the professional development (PD) programme's effectiveness in meeting its intended goals. Objective four aimed to evaluate the impact of the PD programme on Creative Arts and Design (CAD) teachers' instructional practices and student learning outcomes. The evaluation findings reveal substantial improvements in various dimensions, corroborating the programme's success and highlighting areas for further enhancement.

The quantitative evaluation results showed significant gains in teachers' self-assessed teaching skills and confidence levels. Pre-programme self-assessment scores averaged 5.2 out of 10, which increased to 8.1 post-programme, representing a 55.8% improvement. Similarly, confidence levels saw a 64.6% boost, with scores rising from 4.8 to 7.9. These improvements are consistent with the literature affirming the importance of targeted PD in building teacher efficacy and self-confidence (Guskey 2002; Yoon et al. 2007). The structured, hands-on nature of the PD workshops, guided by the Basic 7, Basic 8, and Basic 9 textbooks and teachers' guides, provided a solid foundation for these positive changes.

Teachers' adoption of new teaching practices further supports the PD programme's effectiveness. The regular implementation of differentiated

instruction strategies increased from 30% to 75%, the use of technology tools rose from 25% to 70%, and project-based learning approaches grew from 20% to 65%. These findings align with research highlighting the transformative potential of PD in promoting innovative teaching practices (Desimone 2009; Darling-Hammond et al. 2017). The programme's emphasis on practical application and collaborative learning likely contributed to these notable increases.

Student engagement and learning outcomes also saw marked improvements. Teachers reported that 85% of their students showed higher engagement levels in CAD lessons post-programme. Preliminary assessment data indicated an average 20% increase in student performance in CAD subjects. These results are in line with studies demonstrating that well-designed PD programmes can positively impact student outcomes by enhancing teachers' instructional practices (Darling-Hammond et al. 2017; Timperley et al. 2007). The engaging, interactive nature of the CAD lessons, coupled with the effective use of differentiated instruction and project-based learning, likely contributed to these improvements.

Classroom observations before and after the PD programme provided further evidence of its impact. The average rating of effective pedagogical strategy use increased from 4.5 to 7.8 out of 10, translating to a 73.3% enhancement. This significant improvement is proof of the programme's success in transforming classroom practices and is supported by literature that highlights the importance of sustained, practice-based PD for meaningful teacher development (Garet et al. 2001; Desimone 2011).

Participant feedback further corroborated the programme's effectiveness, with 90% of participants rating it as “highly effective” or just “effective” in improving their teaching skills and practices. Moreover, 95% expressed a willingness to recommend the PD programme to their colleagues. This high level of satisfaction and endorsement aligns with the literature that affirms the critical role of teacher

perceptions and satisfaction in the success and sustainability of PD programmes (Guskey 2002; Desimone & Garet 2015).

Thus, the findings from the Evaluation Phase validate the PD programme's success in achieving its objectives. The substantial improvements in teaching skills, confidence, and instructional practices, along with enhanced student engagement and performance, demonstrate the programme's effectiveness. These positive outcomes, supported by corroborating literature, underscore the importance of providing practical, hands-on training, continuous support, and relevant resources to promote sustained professional growth and improved student achievement in CAD education.

5.5 INTEGRATION OF THEMATIC FINDINGS

Thematic analysis is a crucial aspect of this study as it provides an in-depth understanding of the qualitative data collected. This section integrates the thematic findings derived from various data sources, including teacher interviews, workshop observations, and feedback surveys. The themes identified offer valuable insights into the experiences and perceptions of CAD teachers who participated in the professional development (PD) programme.

Enhancement of Teaching Skills and Confidence

One of the prominent themes was the significant improvement in teaching skills and confidence among the participants. Teachers reported that the PD programme equipped them with practical strategies for differentiated instruction, project-based learning, and technology integration. This aligns with Desimone's (2009) framework, which features the importance of content focus and active learning in PD to improve instructional practices. The quantitative data supported this theme, showing a 55.8% improvement in self-assessed teaching skills and a 64.6% increase in confidence levels.

Collaborative Learning Environment

The collaborative nature of the workshops was highlighted as a key factor contributing to the programme's success. Teachers valued the opportunity to engage in peer discussions, share best practices, and receive immediate constructive feedback. This finding is corroborated by Vescio et al. (2008), who noted that collaborative PD fosters a professional community, enhancing teacher learning and practice. The peer review sessions and group discussions facilitated a supportive environment, promoting continuous professional growth.

Integration of Technology in Teaching

The theme of integrating technology into teaching emerged strongly. Participants expressed that the workshops provided them with the skills and confidence to incorporate digital tools such as computers, smartphones and tablets into their lessons. This integration is crucial for encouraging creativity and engagement in students, as highlighted by Mishra and Koehler's (2006) Technological Pedagogical Content Knowledge (TPACK) framework. The adoption of technology tools increased from 25% to 70% which reflected a substantial shift in teaching practices.

Student Engagement and Learning Outcomes

Teachers observed a marked improvement in student engagement and learning outcomes as a result of the new instructional strategies learnt. The reported increase in student participation and interest in CAD lessons amplifies the effectiveness of the PD programme. This theme is supported by Hattie's (2009) research on visible learning, which reiterates the impact of effective teaching strategies on student achievement. Preliminary data indicated a 20% increase in student performance in CAD subjects, further validating the positive influence of the PD programme.

Challenges and Areas for Improvement

Despite the positive feedback, some challenges were identified, such as the intensity and pace of the programme. Participants suggested extending the duration to allow for more in-depth exploration of certain topics. Additionally, there was a need for more advanced training on specific digital tools. These findings resonate with Guskey's (2002) model, which advocates for ongoing support and iterative improvement in PD programmes to address emerging needs and challenges.

5.6 IMPLICATIONS FOR EDUCATIONAL THEORY AND PRACTICE

The findings from this study offer several important implications for educational theory and practice in the field of Creative Arts and Design (CAD) teacher professional development (PD). The following is a detailed exposition of several educational theories and their practical implications, which align with this study.

Reinforcement of Constructivist Learning Theory

The study strongly reinforces the principles of constructivist learning theory, which posits that knowledge is actively constructed by learners through experiences and reflections rather than passively received from the environment (Schunk 2012). Constructivism affirms the importance of hands-on, experiential learning, where learners engage with tasks, solve problems, and reflect on their experiences to build understanding and skills. The professional development (PD) programme in this study incorporated extensive hands-on workshops, practical exercises, and collaborative projects, which are hallmarks of constructivist pedagogy. These active learning experiences enabled teachers to directly engage with new pedagogical strategies, experiment with different approaches, and receive immediate feedback. This practical engagement is crucial for deep learning, as it allows individuals to connect theoretical knowledge with real-world applications (Vygotsky 1978).

Another core aspect of constructivist theory is reflective practice, which involves critically analysing one's experiences to gain deeper insights and improve future actions (Darling-Hammond et al. 2017). The PD programme encouraged teachers to reflect on their teaching practices, identify areas for improvement, and share their reflections with peers. This reflective process not only solidified their learning but also promoted a culture of continuous improvement and professional growth and metacognitive strategies which Flavell (1979) describes as the development of awareness of their thinking processes as one learns.

The study's findings revealed significant improvements in teaching skills and confidence among participants, which aligns with the constructivist perspective that effective learning occurs through active participation and reflection. Before the programme, teachers rated their teaching skills and confidence relatively low, with average scores of 5.2 and 4.8, respectively. Post-programme, these scores increased to 8.1 for teaching skills and 7.9 for confidence, representing substantial improvements of 55.8% and 64.6%, respectively. These gains highlight the effectiveness of constructivist-based PD programmes in enhancing professional competencies (Schunk 2012).

Constructivism also focuses on the social nature of learning, where collaboration and interaction with peers play a critical role in knowledge construction (Vygotsky 1978). The PD programme facilitated numerous opportunities for collaborative learning through group discussions, peer review sessions, and collective problem-solving activities. These interactions allowed teachers to learn from each other, share best practices, and develop a supportive professional community, further enhancing their learning experiences.

The study's findings are corroborated by extensive literature on constructivist learning and PD. Darling-Hammond et al. (2017) emphasise that effective PD programmes are those that are interactive, practical, and aligned with teachers' real-world experiences. Additionally, Guskey (2002) argues that successful PD

should involve active learning, ongoing support, and opportunities for reflection and collaboration, all of which are key components of constructivist pedagogy.

Validity of Professional Learning Communities (PLCs)

The Professional Development (PD) programme's collaborative elements, such as peer review sessions and group discussions, highlight the effectiveness of Professional Learning Communities (PLCs) in promoting professional growth. This aligns with Wenger's (1998) theory of communities of practice, which affirms the role of social interactions in professional learning and development. PLCs are groups of educators that meet regularly, share expertise, and work collaboratively to improve teaching skills and the academic performance of students.

Peer Review Sessions and Group Discussions

The peer review sessions allowed teachers to present their lesson plans, assessments, and classroom strategies to their colleagues, receiving constructive feedback and new ideas. This practice resonates with Wenger's notion that learning is fundamentally a social phenomenon. By engaging in dialogue with peers, teachers construct shared understandings and develop their professional identities (Wenger 1998). These interactions are crucial for deepening content knowledge, improving instructional practices, and cultivating a culture of continuous improvement.

Collaborative Learning and Professional Growth

The group discussions facilitated during the PD programme also emphasise the importance of collaborative learning. Research indicates that when teachers collaborate, they are more likely to adopt innovative teaching practices and sustain improvements over time (Vescio et al. 2008). Through collaboration, teachers develop a sense of collective responsibility for student achievement, which enhances their motivation and commitment to professional growth.

Supporting Theoretical Foundations

The success of the collaborative elements in the PD programme is supported by the broader literature on Professional Learning Communities (PLCs). For example, DuFour, DuFour, Eaker, and Many (2006) describe PLCs as a powerful approach to school improvement, emphasising that collaboration should focus on specific student learning outcomes and be driven by data. Similarly, Hord (2009) identifies key dimensions of PLCs, including supportive and shared leadership, collective creativity, shared values and vision, and shared personal practice—all of which were evident in the PD programme's structure.

Empirical Evidence

Empirical studies provide further support for the validity of PLCs in professional development. A study by Vescio, Ross, and Adams (2008) found that PLCs positively impact teaching practices and student achievement. Teachers involved in PLCs reported increased confidence in their instructional abilities and a greater willingness to implement new strategies. This aligns with the findings of the PD programme, where participants showed significant improvements in teaching skills and confidence.

Practical Implications

The implementation of PLCs within the PD programme demonstrates practical implications for professional development in education. By cultivating a collaborative environment, educators can continuously learn from one another, address challenges collectively, and develop innovative solutions tailored to their specific contexts. This collaborative approach not only enhances individual teacher performance but also contributes to building a supportive professional community focused on student success.

Integration of Technological Pedagogical Content Knowledge (TPACK) Framework

The study's emphasis on technology integration strongly supports the TPACK framework, which Mishra and Koehler (2006) introduced to highlight the complex interplay between technology, pedagogy, and content knowledge in educational settings. This framework asserts that effective teaching with technology requires an understanding of the unique affordances and constraints of technological tools combined with pedagogical strategies and content knowledge. The marked increase in the use of technology tools by teachers in this study demonstrates the practical applicability of this theoretical framework in enhancing instructional practices.

Blending Technological, Pedagogical, and Content Knowledge

The TPACK framework posits that the successful integration of technology in teaching hinges on the seamless blending of three knowledge domains: technological knowledge (TK), pedagogical knowledge (PK), and content knowledge (CK) (Mishra & Koehler, 2006). The PD programme in the study incorporated extensive training on using various technology tools, which allowed teachers to enhance their technological knowledge. This training, combined with strategies for applying these tools in pedagogically sound ways and within specific content areas, aligns with the TPACK framework's principles.

Impact on Teaching Practices

The study revealed a substantial increase in teachers' use of technology tools, rising from 25% to 70%. This improvement reinforces the efficacy of the PD programme in equipping teachers with the necessary skills and confidence to integrate technology into their teaching. According to Koehler, Mishra, and Cain (2013), integrating technology in teaching requires more than just knowing how to use technological tools; it involves understanding how these tools can transform teaching and learning. The increased use of technology by teachers in the study suggests that they were not only learning to use new tools but also understanding

how to apply them effectively within their pedagogical practices and content areas.

Enhancing Instructional Practices

The practical application of the TPACK framework in the study's PD programme is evident in the improved instructional practices observed among teachers. By blending technological, pedagogical, and content knowledge, teachers were able to design and implement more engaging and effective lessons. This integration aligns with findings from other studies, which suggest that teachers who develop strong TPACK are better equipped to create meaningful learning experiences that leverage technology's potential (Mishra, & Koehler 2006). The PD programme's focus on hands-on activities and collaborative learning further reinforced these principles, enabling teachers to practice and refine their skills in a supportive environment.

Supporting Theoretical Foundations

The success of the PD programme in enhancing teachers' technology integration capabilities is consistent with the broader literature on TPACK. For example, the research by Mishra and Koehler (2006) indicated that professional development programmes focused on TPACK can significantly improve teachers' confidence and competence in using technology for teaching. The study's findings corroborate this, showing a 64.6% increase in teachers' confidence levels and a marked improvement in their technological knowledge and application.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

Chapter Six marks the culmination of the research journey, where the key findings, conclusions, and recommendations are synthesised and presented. This chapter aims to provide a comprehensive summary of the study's outcomes, draw significant conclusions based on the data analysis and interpretations from the previous chapters, and offer actionable recommendations for policy, practice, and future research in Creative Arts and Design (CAD) education. The purpose of this chapter is threefold. First, it seeks to encapsulate the core findings of the research, providing a clear and concise summary that highlights the most important results. Second, it aims to derive meaningful conclusions from these findings, offering insights into the effectiveness of the professional development (PD) programme and its impact on CAD teachers. Finally, this chapter provides recommendations that can inform future PD initiatives, educational policies, and further studies, ensuring that the lessons learned from this research can be applied to improve CAD education more broadly.

6.1 SUMMARY

The purpose of this study was to develop a professional development programme for teaching Creative Arts and Design in Sagnarigu Municipality of Northern region of Ghana. This section therefore summarises the various chapters as well as the key findings of the study.

Chapter One laid the groundwork for the study, providing an overview of the research problem, objectives, and significance. It highlighted the challenges of Creative Arts and Design (CAD) education regarding the requisite qualification of teachers. The chapter also outlines the research questions which set the stage for the subsequent investigation. It emphasised the importance of professional development (PD) in enhancing the effectiveness of CAD teachers and improving student outcomes in the arts.

Chapter Two delved into the existing literature on professional development, pedagogical theories in education. It explored various theoretical frameworks, such as constructivist learning theory and the concept of Professional Learning Communities (PLCs). The literature review provided a comprehensive analysis of previous studies related to the challenges and opportunities in art education, particularly in the context of CAD. This chapter also presented the theoretical foundation for the study and identified gaps in the literature that the research aimed to address.

Chapter Three detailed the research design, methodology, and data collection procedures used in the study. It explained the rationale behind selecting a mixed-methods approach, combining quantitative surveys and qualitative interviews to gather data from CAD teachers, headteachers and seasoned educationists. The chapter also describes the development and implementation of the PD program set within Action Science, including the needs analysis, design, implementation and evaluation phases. Ethical considerations, sampling techniques, and data analysis methods are also discussed, providing a clear outline of how the research was conducted.

In Chapter Four, the collected data was presented and analysed. The chapter provided quantitative results from the survey, highlighting the teaching experience, educational background, and current practices of CAD teachers. It also included qualitative findings from interviews in focused-group discussions with headteachers and seasoned art educationists, which offered rich data on the current state of CAD education as well as offering valuable information on how a PD could be designed and implemented. The data is analysed in relation to the research questions, with a focus on identifying key trends and patterns.

Chapter Five interpreted the data presented in Chapter Four. The chapter offers an in-depth analysis of the results, discussing how the study's outcomes align with or diverge from existing research. It also explored the implications of the findings

for theory and practice, particularly in the context of constructivist learning theory. The chapter highlighted the effectiveness of the PD program in addressing the identified needs of CAD teachers.

This final chapter summarises the key findings of the study and draws conclusions based on the data interpretation. It discusses the impact of the PD program on CAD teachers' teaching practices, confidence levels, and student outcomes. It also presents a proposed model of professional development programme for teaching Creative Arts and Design. This chapter also provides recommendations for policymakers, educators, and researchers, reiterating the need for ongoing support and professional development for CAD teachers. It concludes with reflections on the study's contributions to the field of art education and suggestions for future research directions.

Summary of Key Findings

Significant Gaps in CAD Pedagogical Skills: The needs analysis phase identified substantial deficiencies in CAD teachers, namely - lack of qualifications, non-availability of teaching resources, and insufficient specialised professional development, among others, which were crucial for delivering a modern, integrated arts curriculum.

Strong Desire for Professional Development: Teachers expressed a keen interest in PD opportunities that would allow them to improve their teaching skills, particularly in the areas of technology integration and arts pedagogy.

Impact of the PD Program: The implementation of the PD program led to significant improvements in teachers' self-assessed teaching skills, confidence, and the adoption of innovative teaching practices. Quantitative data showed a 55.8% improvement in teaching skills and a 64.6% increase in confidence levels.

Enhanced Student Outcomes: The program also had a positive impact on student engagement and learning outcomes, with 85% of teachers reporting higher levels of student participation and a 20% improvement in student performance in CAD subjects.

Reinforcement of Educational Theories: The findings of the study reinforced several educational theories, including constructivist learning theory, which emphasises the importance of experiential learning and the integration of technology in education.

6.2 CONCLUSIONS DRAWN FROM THE STUDY

This study aimed to address the critical gaps in Creative Arts and Design (CAD) education by providing a structured and inclusive professional development (PD) programme for teachers. The findings from each phase of the study—needs analysis, design, implementation, and evaluation—collectively emphasise the transformative impact of targeted PD on teaching practices and student outcomes.

Conclusions Drawn from the Needs Analysis Phase

The initial needs analysis revealed a significant deficiency in CAD teachers' pedagogical skills, particularly in technology integration and differentiated instruction. Teachers themselves recognised this gap and expressed a strong desire for structured PD opportunities. Moreover, the analysis emphasised the shortage of suitably qualified CAD teachers, especially at the junior high school level. This phase stressed the necessity of targeted PD programmes to address these specific gaps in teaching skills and to equip teachers with the necessary competencies to meet the demands of a modern, integrated arts curriculum.

Conclusions Drawn from the Design Phase

In response to the identified needs, the PD programme was methodically designed to be both contextually relevant and practically oriented. The design

incorporated key elements such as differentiated instruction, project-based learning, and technology integration, aligning with the curriculum outlined in the Basic 7, Basic 8, and Basic 9 textbooks. The design phase highlighted the importance of creating PD content that is directly applicable to classroom situations and tailored to the specific challenges faced by CAD teachers. The collaboration with art educationists during this phase ensured that the programme objectives and goals were well-aligned with the teachers' needs and the educational context.

Conclusions Drawn from the Implementation Phase

The implementation of the PD program was marked by high levels of teacher engagement and active participation. Teachers developed new lesson plans, practiced innovative instructional strategies, and engaged in collaborative learning through peer review sessions and group discussions. This phase illustrated that immersive and interactive PD experiences, which blend theoretical knowledge with practical application, can lead to significant improvements in teaching practices. The hands-on workshops and collaborative activities were particularly effective in enhancing teachers' confidence and skills in delivering the new CAD curriculum.

Conclusions Drawn from the Evaluation Phase

The evaluation of the PD programme demonstrated substantial improvements in both teachers' self-assessed teaching skills and confidence levels. Quantitative data showed significant gains in the adoption of new teaching practices, particularly in the use of differentiated instruction, technology tools, and project-based learning approaches. Additionally, classroom observations by the teachers after the four-week workshops indicated a marked enhancement in the effective use of pedagogical strategies. The positive feedback from participants further validated the effectiveness of the PD programme. This phase concluded that a well-structured and targeted PD programme could significantly improve teaching practices and student outcomes in the CAD curriculum.

6.3 PROPOSED MODEL OF PROFESSIONAL DEVELOPMENT PROGRAMME

This proposed inclusive model provides a structured approach to professional development for CAD teachers. The model ensures that teachers receive practical, interactive, and collaborative training that is directly applicable to their teaching contexts. If this model is followed systematically, schools and educational institutions can enhance the quality of CAD education and support teachers in delivering engaging and effective lessons. The model consists of six interconnected phases:

1. Needs Assessment Phase,
2. Programme Design Phase,
3. Implementation Phase,
4. Monitoring and Support Phase,
5. Evaluation Phase, and
6. Reflection and Continuous Improvement Phase.

Each of these phases are explained in detail by first stating the objective for the phase, providing reasons for the colour choice in the diagram and concluding with the key components of the phases.

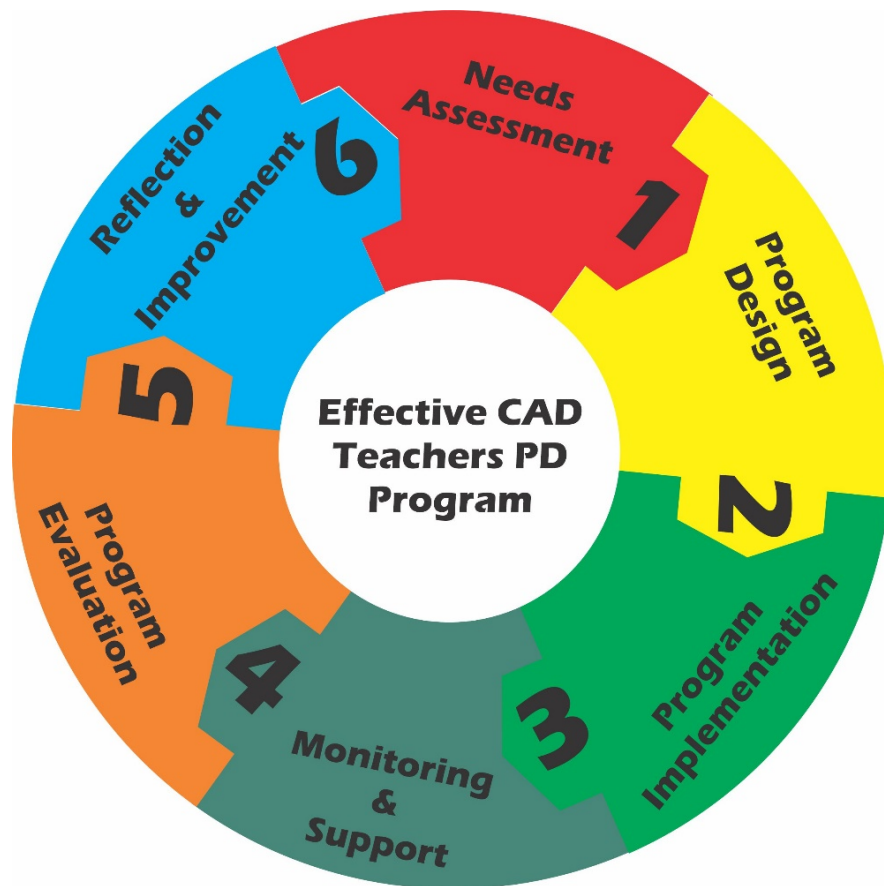


Figure 6.1: Proposed Inclusive PD programme, Researcher's construct (2024)

Phase 1: Needs Assessment Phase (Red)

Objective: Identify the specific needs, gaps, and areas for improvement in CAD teaching practices.

Rationale for Colour Choice

The vibrant, commanding red hue that defines the needs assessment phase of the program illustrates a clear sense of urgency and importance. This warm color demands the attention of the teachers. It asserts the crucial necessity to swiftly identify any gaps or deficiencies in their expertise when it comes to CAD pedagogy. It is as if the very walls are filled with a sense of purpose, urging the teachers to dive into this assessment process with a keen, focused eye. The red shade stresses the programme's firm commitment to ensuring that the teachers

are fully equipped to meet the evolving educational needs of their students. There is no time to waste – the teachers must act with precision and readiness to uncover every area that requires strengthening or refinement, so that they can be empowered to deliver the highest caliber of instruction. This bold red colour is a constant reminder of the importance of this phase. It challenges the teachers to confront any shortcomings head-on and take the necessary steps to shore up their knowledge and skills. Red is a call to action, a spark that ignites the flames of progress and innovation within the program.

Key Components:

Surveys and Questionnaires: Administer questionnaires to teachers to collect data about their existing abilities, difficulties, and requirements for further professional development. The data gathered through these surveys and questionnaires will provide important insights into the current skill levels, challenges, and professional growth needs of the participating teachers.

Focus Group Discussions: Conduct focus group discussions with a diverse set of teachers and administrators and any other relevant stakeholders to obtain deeper perceptions into their experiences and requirements. The interactive nature of the focus group discussions will allow for a more varied understanding of the teachers' and other involved stakeholders' perspectives, concerns, and ideas for improving CAD teaching practices.

Classroom Observations: Conduct initial observations in the CAD classrooms to evaluate the current pedagogical methods and the integration of technology. These classroom observations will provide a firsthand understanding of the existing instructional practices and the level of technology integration, which will inform the design of the professional development program.

Phase 2: Programme Design Phase (Yellow)

Objective: Design a comprehensive inclusive PD programme which caters for the identified needs.

Rationale for Colour Choice

The design phase of the program is characterised by a vibrant yellow colour that represents creativity, innovation, and optimism, which are essential elements of this important preliminary stage. Similar to the yellow traffic signal indicating the need to prepare, this vivid colour represents the programme's emphasis on making all the required preparations and arrangements to ensure a smooth and effective execution. The educationists fully engage themselves in this progressive setting where their thoughts are busy with fresh concepts and inventive methods to achieve the established goals of the professional development programme. The presence of the colour yellow in an environment evokes a feeling of enthusiasm and potential, motivating educationists to explore unconventional teaching methods such as individualised instruction, project-based learning, and advanced technology integration. The atmosphere seems to be filled with the force of change, urging seasoned educationists to embrace their natural creativity and use it to create an engaging and meaningful programme. The consistent yellow colour serves as a reminder that this is a period dedicated to preparing, improving, and establishing a solid basis for teachers to confidently develop their abilities and methods.

Key Components

Programme Development: Design a comprehensive PD programme that covers essential topics such as differentiated instruction, project-based learning, arts integration, and effective technology use in CAD teaching. Structure the curriculum in a way that provides teachers with a clear and coherent learning pathway to improve their pedagogical and technological proficiency.

Resource Compilation: Assemble and develop a range of resources, including textbooks, guides, and digital tools such as computers, smartphones, tablets and appropriate software to enhance the PD sessions and provide teachers with the necessary materials to support their learning and implementation. Ensure that the resources are aligned with the PD objectives and cater for the diverse learning needs and preferences of the participating teachers.

Expert Involvement: Engage experienced CAD education experts to design and lead the PD workshops, drawing on their extensive knowledge and practical experience to deliver high-quality training. Leverage the expertise of these professionals to provide teachers with cutting-edge strategies, best practices, and insights on effective CAD teaching and technology integration.

Phase 3: Implementation Phase (Green)

Objective: Deliver the PD programme through interactive, practical workshops and ongoing support.

Rationale for Colour Choice

The green hue that defines the implementation phase of the program evokes a sense of abundant growth, rejuvenation, and dynamic engagement. This colour perfectly captures the energy and momentum that drives the teachers forward as they move into intensive, hands-on workshops. Imagine a classroom buzzing with the sounds of eager discussion and collaborative problem-solving, as the teachers work together to master new teaching techniques and strategies. The green shade reflects the nurturing, supportive environment that encourages the teachers to take risks, experiment, and refine their craft. It is as if the very walls are infused with the verdant spirit of the natural world, inspiring the teachers to cultivate their own professional growth. Just as a seed sprouts and flourishes when given the right conditions, the teachers in this programme are nourished by the growth-oriented atmosphere, empowered to emerge as more confident, capable, and innovative CAD teachers. The green colour is a constant reminder

of the transformative power of active engagement, shared learning, and solid support.

Key Components

Interactive Workshops

The program will deliver a range of interactive workshops covering essential teaching methodologies such as:

Differentiated Instruction: Strategies for tailoring teaching methods and materials to meet the diverse needs of students.

Project-Based Learning (PBL): Techniques for designing and implementing engaging PBL units.

Technology Integration: Training on using digital tools and resources effectively in CAD education.

Hands-On Learning: The workshops will prioritise interactive, hands-on activities, including role-playing, scenario analyses, and collaborative planning exercises. These experiential learning opportunities will enable teachers to actively engage with the new concepts and practice, applying them in a supportive environment.

Peer Collaboration: Facilitated peer review and feedback sessions must be incorporated to promote collaborative learning and the sharing of best practices. Teachers will have the chance to learn from one another, provide constructive feedback, and refine their skills through this collaborative process.

Practical Application: Throughout the workshops, teachers must be guided in developing their own lesson plans and units that incorporate the new strategies and tools they have learned. This practical application component will ensure that

the teachers can seamlessly integrate the acquired knowledge and skills into their everyday teaching practices.

Phase 4: Monitoring and Support Phase (Deep Green)

Objective: Provide ongoing support and monitor the progress of teachers as they implement new practices.

Rationale for Colour Choice

As the teachers progress into putting their newfound skills into practice, the deep, earthy green hue takes centre stage, symbolising the programme's dedication to providing them with adequate support and encouragement. This rich colour reflects the program's steadfast commitment to cultivating a nurturing, stabilising environment where the teachers can confidently refine and sustain their skills. Imagine the teachers feeling encouraged by a robust network of resources, mentorship, and collaborative opportunities which empower them to experiment and continuously improve their teaching methods. The deep green serves as a reminder that they are not alone on this journey of growth and transformation – the programme's team is there to offer guidance, inspiration, and the tools necessary for long-term success. Just as a sturdy tree takes root and flourishes over time, the teachers in this program are nurtured by this deep green foundation, allowing the positive changes they have embraced to truly take hold and blossom in their classrooms. This phase is all about fostering a strong support system that enables the teachers to confidently navigate the challenges and triumphs of implementing new strategies, ultimately elevating the teaching and learning experience for all.

Key Components

Mentorship Program: Experienced and skilled educators must be paired with the participating teachers to serve as mentors. These mentors provide guidance, advice, and personalised support to help the teachers navigate the implementation process and refine their practices. Through regular check-ins and

open communication, the mentors must help the teachers work through any challenges or obstacles they may face.

Online Support Community: An interactive online platform must be created to foster a collaborative support network among the teachers. This virtual space allows teachers to share resources, ask questions, and provide peer-to-peer support to one another. The online community serves as a hub for continued learning, troubleshooting, and the exchange of best practices.

Regular Check-Ins: The programme administrators must conduct periodic check-ins with the teachers to monitor their progress and identify any areas where additional support may be needed. Templates would be provided for such monitoring initiatives. These check-ins provide an opportunity to address challenges, address concerns and issues, and ensure that the teachers feel empowered and equipped to sustain the changes they have implemented. The feedback gathered during these check-ins also helps the programme team to refine and enhance the support offerings as needed.

Phase 5: Evaluation Phase (Orange)

Objective: Assess the impact of the PD programme on teachers' skills, confidence, and teaching practices, as well as on student engagement and learning outcomes.

Rationale for colour choice

The evaluation phase of the program is represented by the colour orange, which perfectly encapsulates the energy, enthusiasm, and comprehensive nature of the assessment process. This dynamic phase is all about immersing into the data and feedback to evaluate the true impact of the professional development programme. The orange hue symbolises the deep sense of excitement surrounding this pivotal stage, as the program team works to measure the improvements in the teachers' skills, confidence, and ultimately, the outcomes for

their students. It is a phase powered by a relentless drive to uncover insights, analyse trends, and identify areas for further growth and refinement. The orange colour conveys a spirit of exploration, innovation, and a steadfast commitment to continuous improvement. This evaluative process is crucial in ensuring that the program remains relevant, impactful, and responsive to the evolving needs of the teachers and their students.

Key Components

Post-Program Surveys and Questionnaires: Teachers should be asked to provide self-assessments on how their skills and confidence levels have changed as a result of the programme. These surveys and questionnaires offer valuable insights into the teachers' personal growth and perceptions of the programme's effectiveness.

Classroom Observations: The program team conducts follow-up observations in the teachers' classrooms to directly assess any improvements in their pedagogical practices and teaching strategies. These observations provide objective data on the real-world implementation and impact of the skills and techniques learned during the programme.

Student Assessment Data: The student engagement and achievement in the CAD subjects taught by the participating teachers must be collected and analysed. This data helps the team to understand the downstream effects of the professional development programme on student outcomes.

Focus Group Discussions: The programme organisers must facilitate follow-up discussions with the teachers to gather qualitative feedback on their experiences, challenges, and impressions of the professional development programme. These open-ended discussions provide a deeper, more nuanced understanding of the program's strengths, weaknesses, and areas for improvement.

Phase 6: Reflection and Continuous Improvement Phase (Blue)

Objective: Reflect on the outcomes and continually improve the PD programme based on feedback and evaluation data.

Rationale for colour choice

The final phase of the program, represented by the soothing blue hue, is all about stepping back, reflecting deeply, and charting a path for continuous improvement. This calming, introspective stage allows the program team to analyse the data, feedback, and outcomes gathered throughout the initiative. The blue colour evokes a sense of tranquility and wisdom, guiding the team to approach this pivotal phase with a thoughtful and strategic mindset. It is a time to proceed into the nuances, identify strengths and areas for growth, and make calculated adjustments to ensure the programme remains impactful, relevant, and responsive to the evolving needs of the teachers. This reflective process is crucial in cultivating a culture of ongoing professional development, where the teachers feel empowered to constantly refine their skills and deliver even better outcomes for their students. The blue hue symbolises the programme's commitment to fostering a steady, sustainable cycle of improvement, where each iteration builds upon the last, ultimately elevating the entire teaching and learning experience.

Key Components

Feedback Sessions: The program team must facilitate open discussions where teachers can provide candid feedback on their experiences, challenges, and suggestions for improvement. These feedback sessions allow the teachers to have a direct voice in shaping the future of the program, ensuring it remains aligned with their evolving needs.

Program Adjustments: Based on the feedback gathered and the data from the evaluation process, the program team must make purposeful adjustments to the curriculum, delivery methods, and structure of the professional development

initiative. This commitment to continuous improvement guarantees that the programme remains dynamic, relevant, and consistently beneficial for the participating teachers.

Documentation and Dissemination: The programme team must diligently document the outcomes, best practices, and key learnings that emerged throughout the initiative. This crucial information is then shared with the broader educational community, allowing other schools and districts to potentially replicate the successful elements of the program and build upon the established best practices.

In summary, the professional development programme demonstrates a steadfast dedication to fostering a culture of ongoing growth and improvement by embracing this reflective and iterative approach. The teachers feel empowered to play an active role in shaping the programme's future, while the programme team works to refine and enhance the initiative based on real-world feedback and data. This cyclical process ensures that the programme continues to elevate the teaching and learning experience for years to come.

6.4 RECOMMENDATIONS FOR POLICY AND PRACTICE

Based on the findings of this study, several recommendations are made to enhance the effectiveness of Creative Arts and Design (CAD) education through targeted professional development (PD) programmes and supportive policies. These recommendations aim to address the identified gaps and ensure sustainable improvements in teaching practices and student learning outcomes.

1. Institutionalise Regular PD Programmes

Education authorities, including the Ministry of Education, Ghana Education Service and school administrations, should institutionalise regular and structured PD programmes focused on not CAD pedagogy but also pedagogies of the rest of the subjects. These programmes should be designed to provide ongoing

support and development opportunities for teachers to ensure that they remain updated with the latest teaching strategies, technological advancements, and curriculum changes. Regular PD can help maintain the high levels of engagement and enthusiasm observed in this study to promote a culture of continuous improvement.

2. Develop Specialised Training Modules

Specialised training modules should be developed to address specific areas of need identified in the study, such as differentiated instruction, project-based learning, and technology integration. These modules should be comprehensive, combining theoretical knowledge with practical application, and should be tailored to the local context. Utilising resources like the approved textbooks and teachers' guides can help ensure that training is relevant and directly applicable to classroom settings.

3. Enhance Technological Integration in PD

Given the significant impact of technology on modern education, it is crucial to enhance the focus on technological integration in PD programmes. Training should cover a range of digital tools and resources, from basic to advanced levels, to ensure that all teachers, regardless of their initial proficiency, can effectively incorporate technology into their teaching. Technology integration, such as Digital Art Software, Virtual and Augmented Reality (VR/AR), Learning Management Systems (LMS) and Video Creation and Editing Software, could be incorporated into future PD programmes to make it more technologically effective. Providing ongoing technical support and resources can help sustain the use of technology in CAD education.

4. Promote Collaborative Learning Communities

Encouraging the institutionalisation and development of collaborative learning communities among CAD teachers can provide a platform for continuous professional growth and peer support. Regular peer review sessions,

collaborative planning activities, and discussion forums can facilitate the exchange of ideas and best practices. Such communities can help sustain the positive collaborative environment observed during the PD programme and enhance the quality of CAD education.

5. Policy Support for CAD Education

Education policymakers should recognise the importance of CAD education and allocate sufficient resources to support its development. This includes funding for PD programmes, provision of necessary teaching materials and technological tools, and incentives for teachers to participate in ongoing training. Policies should also address the recruitment and retention of suitably qualified CAD teachers, particularly in rural and underserved areas, to ensure equitable access to quality arts education.

6. Implement Comprehensive Assessment Strategies

Effective assessment strategies are crucial for evaluating student learning and creative expression in CAD. PD programmes should include training on formative and summative assessment techniques, rubric design, and portfolio assessment. Encouraging the use of diverse assessment methods can help teachers more accurately gauge student progress and provide targeted feedback to support their development.

7. Monitor and Evaluate PD Programme's Impact

Continuous monitoring and evaluation of PD programmes are essential to ensure their effectiveness and inform future improvements. Implementing a robust evaluation framework that includes both quantitative and qualitative measures can provide valuable insights into the impact of PD on teaching practices and student outcomes. Regular feedback from participants should be used to refine and enhance PD programmes to ensure that they meet the evolving needs of teachers and students.

If these recommendations are implemented, education authorities can create a supportive environment that promotes the professional growth of CAD teachers and enhances the quality of arts education. These measures will help ensure that teachers are well-equipped to deliver an engaging, relevant, and effective CAD curriculum which will ultimately benefit students and promote a greater appreciation for the arts.

6.5 RECOMMENDATIONS FOR FUTURE RESEARCH

Based on the findings and limitations of this study, several areas for future research are recommended to further explore and enhance the effectiveness of professional development (PD) programmes in Creative Arts and Design (CAD) education. These recommendations aim to build on the current study's insights and address gaps that require deeper investigation.

1. Longitudinal Studies on PD Programme Impact

Future research should conduct longitudinal studies to assess the long-term impact of PD programmes on teaching practices and student outcomes. This would provide valuable insights into the sustainability of the observed improvements in teacher skills and confidence, as well as the lasting effects on student engagement and achievement in CAD education.

2. Comparative Studies Across Different Contexts

Comparative studies that explore the effectiveness of PD programmes across different educational contexts, such as urban vs. rural settings, public vs. private schools, and various cultural environments, can provide a broader understanding of how contextual factors influence the success of PD initiatives. Such research can help tailor PD programmes to meet the specific needs of different teacher populations.

3. In-Depth Exploration of Technological Integration

Further research is needed to explore the specific challenges and benefits of integrating technology into CAD education. Studies should investigate the types of digital tools that are most effective, the support structures necessary for successful implementation, and the impact of technology on student creativity and learning outcomes. Additionally, research should examine how advanced training on specific digital tools can further enhance teachers' proficiency and confidence.

4. Examination of Collaborative Learning Communities

The role of collaborative learning communities in sustaining professional growth and improving teaching practices warrants further investigation. Future studies should explore the dynamics of these communities, the types of interactions that are most beneficial, and the impact of peer support on teacher development. Research should also examine how to best facilitate and maintain these communities over time.

5. Evaluation of Differentiated Instruction and Technology Integration

Given the significant improvements observed in the use of differentiated instruction and technology integration, future research should delve deeper into these instructional strategies. Studies should explore the specific methods and approaches that are most effective, the challenges teachers face in implementing them, and their impact on diverse student populations. Research should also investigate how these strategies can be further refined and supported through PD programmes.

Student-Centred Research

Future research should include studies that focus on student perspectives and outcomes in CAD education. Investigating how students perceive and engage with the CAD curriculum, the factors that influence their creativity and learning, and the impact of different teaching strategies on their development can provide

crucial information for enhancing CAD education. Student-centred research can also help identify areas where additional support and resources are needed.

6. Policy and Resource Allocation Studies

Research on the role of policy and resource allocation in supporting effective CAD education is crucial. Future studies should examine how different policy frameworks and funding models impact the availability and quality of PD programmes, the recruitment and retention of suitably qualified CAD teachers, and the provision of necessary teaching materials and technological tools. Such research can inform policy decisions and resource allocation to better support CAD education.

7. Comprehensive Assessment Strategies

Further exploration of comprehensive assessment strategies in CAD education is needed. Research should investigate the effectiveness of various formative and summative assessment techniques, the design and implementation of rubrics, and the use of portfolio assessment. Studies should also explore how different assessment methods influence student learning and creativity and how teachers can be supported in developing and using these strategies effectively.

6.6 FINAL REFLECTIONS

Reflecting on the journey of this study, several key insights emerge that stress the transformative potential of targeted professional development (PD) programmes in Creative Arts and Design (CAD) education. This research has illustrated the critical need for structured and ongoing PD opportunities that are specifically tailored to the unique challenges and requirements of CAD teachers.

1. Importance of Practical and Interactive Learning

One of the standout elements of this study's PD programme was its emphasis on practical, hands-on learning. The interactive sessions, role-playing activities, and real-world applications provided teachers with immediate, tangible skills and

strategies that they could directly implement in their classrooms. This practical focus not only enhanced teachers' confidence but also made the learning process more engaging and effective. It reinforced the idea that professional development should be experiential by providing teachers with opportunities to practice and refine their skills in a supportive environment.

2. Role of Collaboration and Community

The collaborative nature of the workshops emerged as a significant factor in their success. Teachers valued the sense of community and the opportunity to share ideas, challenges, and solutions with their peers. This collaborative approach promoted a supportive learning environment where teachers could learn from one another and feel part of a collective effort to improve CAD education. It highlighted the importance of creating professional learning communities that can sustain and support teacher development beyond the formal PD sessions.

3. Impact of Tailored Resources and Support

The use of the Basic 7, Basic 8, and Basic 9 textbooks and teachers' guides, co-authored with the researcher, was instrumental in grounding the PD programme in practical, classroom-relevant content. These resources provided a concrete foundation for the workshops, ensuring that the training was directly applicable to the teachers' everyday teaching contexts. The provision of tailored resources and ongoing support emerged as a critical factor in the effectiveness of PD programmes which enabled teachers to feel more prepared and confident in implementing new strategies and approaches.

4. Addressing Challenges and Areas for Improvement

While the feedback on this PD programme was positive, it also surfaced areas for enhancement. Some teachers found the intensity and pace of the programme challenging, suggesting a need for a more extended duration to allow for deeper exploration of certain topics. Additionally, while the integration of technology was well-received, there was a call for more advanced training on specific digital tools

and resources. These insights highlight the importance of continually refining and adapting PD programmes to meet the evolving needs of teachers.

5. Broader Implications for CAD Education

This study's findings have broader implications for CAD education at the primary and junior high school levels. The significant improvements in teachers' skills, confidence, and teaching practices emphasise the potential of targeted PD programmes to enhance the quality of CAD education. Additionally, the positive impact on student engagement and learning outcomes suggests that investing in teacher development can lead to substantial benefits for students. These insights can inform policy and practice, thereby advocating for increased support and resources for PD in CAD education.

In conclusion, this study has demonstrated the profound impact that well-designed PD programmes can have on teachers' professional growth and classroom practices. It highlighted the need for ongoing, practical, and collaborative professional development opportunities that are tailored to the specific challenges of CAD education. Through investing in and refining PD programmes, we can support teachers in delivering high-quality, engaging, and effective CAD education, ultimately benefiting students and enriching the broader educational landscape.

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**AN INCLUSIVE PROFESSIONAL DEVELOPMENT PROGRAMME FOR
CREATIVE ARTS AND DESIGN TEACHERS OF JUNIOR HIGH SCHOOLS IN
GHANA**

by

AL-HASSAN BAWA

CHAPTER 7 – APPENDICES (BOOK TWO)

Submitted in accordance with the requirements for the degree of

DOCTOR OF PHILOSOPHY

in the Subject

ART

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: PROFESSOR NOMBEKO P MPAKO

(NOVEMBER 2024)

CHAPTER : APPENDICES

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7.1 APPENDIX A: ETHICS APPROVAL LETTER



COLLEGE OF HUMAN SCIENCES RESEARCH ETHICS REVIEW COMMITTEE

06 December 2023

Dear Mr Al-hassan Bawa

NHREC Registration # :
Rec-240816-052
CREC Reference # :
13132474_CREC_CHS_2023

Decision:
Ethics Approval from 06 December
2023 to 06 December 2024

Researcher(s): Name: Mr. A. Bawa
Contact details: 13132474@mylife.unisa.ac.za
Supervisor(s): Name: Prof. N. P. Mpako
Contact details: penelope.mpako@gmail.com

Title: A Professional Development Programme for Creative Arts and Design
Teachers in Junior High Schools in Ghana

Degree Purpose: PhD

Thank you for the application for research ethics clearance by the Unisa College of
Human Science Ethics Committee. Ethics approval is granted for one year.

The *low-risk application* was reviewed by College of Human Sciences Research Ethics
Committee, in compliance with the Unisa Policy on Research Ethics and the Standard
Operating Procedure on Research Ethics Risk Assessment.

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the College Ethics Review Committee.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the



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confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.

5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
7. No fieldwork activities may continue after the expiry date (06 December 2024). Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:

The reference number 13132474_CREC_CHS_2023 should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.

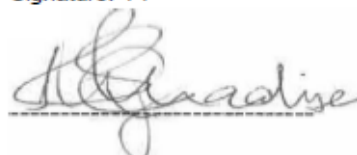
Yours sincerely,

Signature:



Prof. KB Khan
CHS Research Ethics Committee Chairperson
Email: khankb@unisa.ac.za
Tel: (012) 429 8210

Signature: PP



Prof. ZZ Nkosi
Executive Dean: CHS
E-mail: nkosizz@unisa.ac.za
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7.2 APPENDIX B: REQUEST FOR PERMISSION LETTER



7th September, 2023

The Municipal Director of Education
Ghana Education Service
Sagnarigu Municipality
Tamale

Dear Sir,

**REQUEST FOR PERMISSION TO CONDUCT RESEARCH WITH CREATIVE ARTS AND
DESIGN TEACHERS IN SCHOOLS UNDER SAGNARIGU MUNICIPALITY**

I am an art lecturer in Tamale Technical University and a PhD candidate with the University of South Africa (UNISA), working on the topic "*A Continuing Professional Development Programme for Teaching Creative Arts and Design in Junior High Schools in Ghana*".

I am writing to request permission to conduct a research study with some teachers under your jurisdiction. As a graduate student/researcher, I am interested in finding out the qualifications and experiences of teachers as well as their perceptions about teaching Creative Arts and Design which will ultimately enable me and a sub-sample of the teachers co-create a model of professional development for teaching Creative Arts and Design. I believe that the insights gained from this research will be valuable in improving teaching practices and ultimately benefitting the students.

I have attached a detailed description of the study, including the research questions, methods, and data collection procedures. The study will involve 120 teachers to answer questionnaires on their qualifications, experiences and perceptions of teaching Creative Arts and Design. A sub-sample of 22 teachers will be interviewed to gain deeper understanding of teachers' lived experiences of teaching Creative Arts and Design. These sub-group of teachers will also undergo planned series of professional development workshops to co-create a model of professional development for teaching Creative Arts and Design. The interviews/workshops session will be audio-recorded/video-taped and transcribed for analysis. The study will take approximately three months to complete.

I assure you that all the data collected will be kept confidential and anonymous. The teachers' names will not be used in any publications or presentations. I will also obtain written consent from each participating teacher prior to administering the questionnaire and engaging them in the interviews and professional development sessions.



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I understand that the teachers' time is valuable and I will make every effort to minimize any disruptions to their regular work schedule. I will work with the schools' heads to schedule our meetings at a convenient time for the teachers.

I would be grateful if you could grant me permission to conduct this research study with the teachers. If you have any questions or concerns, please do not hesitate to contact me on mobile phone: +233242149285 or on email: 13132474@mylife.unisa.ac.za

Should you require any further information or want to contact the researcher about any aspect of this study, please contact Prof N. P. Mpako at: Penelope.mpako@gmail.com.

Should you have concerns about the way in which the research is to be conducted, you may contact Prof N. P. Mpako. Telephone number 012 4298391. Alternatively, contact the research ethics chairperson of the College Ethics Review Committee, Prof Khatija Khan (khankb@unisa.ac.za; 0124298549).

Thank you for your anticipated consideration.

Yours faithfully,



Al-hassan Bawa

[Student Researcher]



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7.3 APPENDIX C: GRANTED PERMISSION LETTER

GHANA EDUCATION SERVICE

In case of reply the number and date
of this letter should be quoted

Ref. No. GES/NR/SMEO/SB:73

Your Ref No.:

Email: sagnarigumeo2019@gmail.com



REPUBLIC OF GHANA

Municipal Education Office
Post Office Box 377 E/R.
Sagnarigu

GPS: NS-009-7757

Date: 18th September, 2023.

PERMISSION TO CONDUCT RESEARCH WORK
MR. ALHASSAN BAWA STUDENT RESEARCHER

Following your request for permission to conduct research work with creative Arts and Design Teachers in the Sagnarigu Municipal Education Directorate of the Northern Region, I wish to inform you that your request has been granted.

You are however, entreated to have a discussion with the Heads of the Schools concern for further clarifications.

Thank you.

ALHASSAN ALIDU JNR. (MR.)
MUNICIPAL DIRECTOR OF EDUCATION
SAGNARIGU

MR. ALHASSAN BAWA
UNISA
SOUTH AFRICA

cc:
The Registrar
UNISA
South Africa

ais

7.4 APPENDIX D: DATA REQUEST LETTER



7th September, 2023

The Municipal Director of Education
Ghana Education Service
Sagnarigu Municipality
Tamale

Dear Sir,

**REQUEST FOR DATA ON NUMBER OF TEACHERS IN JUNIOR HIGH SCHOOLS UNDER
SAGNARIGU MUNICIPALITY**

I am an art lecturer in Tamale Technical University and a PhD candidate with the University of South Africa conducting a research on the topic, "*A Continuing Professional Development Programme for Teaching Creative Arts and Design in Junior High Schools in Ghana*". I chose Sagnarigu Municipality as my study area and I would be very grateful if you could furnish me with data on the total number of teachers in the Junior High Schools; number of teachers in each circuit and number of Creative Art teachers in the municipality. This will enable me get accurate data for the methodology section of the study.

I assure you that all the data collected will be kept confidential and anonymous. If you have any questions or concerns, please do not hesitate to contact me on mobile phone: +233242149285 or on email: 13132474@mylife.unisa.ac.za

I count on your consideration and approval.

Yours faithfully,

A handwritten signature in blue ink, appearing to read "Al-hassan Bawa", is written over a light grey rectangular background.

Al-hassan Bawa

[Student Researcher]



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7.5 APPENDIX E: RECEIVED DATA ON THE NUMBER OF CAD TEACHERS

SAGNARIGU MUNICIPAL EDUCATION DIRECTORATE			
DATA ON JUNIOR HIGH SCHOOL TEACHERS			
S/N	CIRCUIT	NUMBER OF JHS TEACHERS	NUMBER OF CREATIVE ARTS TEACHERS
1	CHOGGU	140	137
2	FUO	136	
3	GUMANI	88	
4	KAMINA A	182	
5	KAMINA B	83	
6	KUMBUNGU ROAD	109	
7	MILE 9	92	
8	NYANKPALA ROAD	88	
9	SAGNARIGU SOUTH	184	
10	SAGNARIGU NORTH	122	
11	TISHIGU	130	
TOTAL		1354	

.....
 AWUDU RUFAT (STATISTICS OFFICER)
 SMEO

7.6 APPENDIX F: NEEDS ANALYSIS QUESTIONNAIRE

I am a PhD candidate with the University of South Africa (UNISA), working on the topic “*A Continuing Professional Development Programme for Teaching Creative Arts and Design in Junior High Schools in Ghana*”. This study is to find out the qualifications and experiences of teachers as well as their perceptions about teaching Creative Arts and Design. As a key respondent, we request you to contribute in a conscious and honest manner. Be assured that all responses you provide will be treated with strictest confidentiality. Thank you once again for your precious time.

SECTION A: Demographic Data of Respondents

1. **Gender:** ☐ Male ☐ Female
2. **Age:** ☐ 20-30 ☐ 31-40 ☐ 41-50 ☐ 51-60
3. **Years of teaching** ☐ 0-5 ☐ 6-10 ☐ Above 10years
4. **School Location:** ☐ Urban ☐ Peri-urban ☐ Rural

SECTION B: Abilities of Teachers of Creative Arts and Design

Educational Background

5. Programme Offered in Secondary/High School

- a) General Arts
- b) Visual Art
- c) Home Economics
- d) Business
- e) Science
- f) Technical
- g) Agricultural Science

6. Tertiary Education

- a) Cert “A”
- b) Diploma in Basic Education
- c) Degree in Basic Education (BEd)
- d) Bachelor Degree (BA, BSc, etc)
- e) Master’s Degree (MA, MEd, MBA, MSc, MPhil, etc)

7. Area of Specialisation of Tertiary Qualification

- a) Visual Art Option
- b) Science
- c) Mathematics
- d) Social Studies
- e) RME
- f) Physical Education
- g) Technical
- h) Home Economics (Catering)
- i) English Language
- j) Others, state:.....

8. Subject taught in the past 5years or more:

- a) English Language
- b) Mathematics
- c) Social Studies
- d) BDT – Home Economics
- e) BDT – Technical
- f) BDT- Visual Art
- g) Integrated Science
- h) Ghanaian Language
- i) Information Communication Technology (ICT)
- j) Religious and Moral Education

Resources and in-service training

9. Do you have Textbook on the Subject? A. Yes B. No
10. Are you provided with Tools and Materials to enable you teach the course? A. Yes B. No
11. Have you received professional training sponsored by your current employer to enable you teach this subject? A. Yes B. No
12. How long did the professional development training on the new Creative Arts and Design curriculum last? A. One day B. Two-days
C. One-week
13. Was the duration for the training adequate and prepared you to teach the subject? A. Yes B. No
14. Did the training equip you with requisite content and pedagogy to enable you teach the subject? A. Yes B. No C.
15. Will you like to attend extra training to enhance your teaching of Creative Arts and Design? A. Yes B. No
16. What is your level of satisfaction associated to the professional training sponsored by your employer institution in terms of content relevance?
A. Highly satisfactory B. Barely Satisfactory C.
Unsatisfactory
17. What is your level of satisfaction associated to the professional training sponsored by your employer institution in terms of methodology and modality?
A. Highly satisfactory B. Barely Satisfactory C.
Unsatisfactory
18. What is your level of satisfaction associated to the professional training sponsored by your employer institution in terms of applicability of the content in your area or context?
A. Highly satisfactory B. Barely Satisfactory C.
Unsatisfactory

SECTION C: Perceptions about Creative Art and Design

19. Do you think the Creative Arts and Design Curriculum will have an impact on students?
20. Do your students understand and be able to apply what you teach them?
A. Yes B. No.
21. Is it difficult to teach the Subject? A. Yes B. No
22. What difficulties do you find in teaching the subject? A. Content/Practical Skills B. Methodology C. Both Content and Methodology

7.7 APPENDIX G: FOCUSED-GROUP DISCUSSION GUIDE FOR HEADTEACHERS

Introduction

This focused-group discussion is part of a study aimed at understanding the current needs and challenges faced by Creative Arts and Design (CAD) teachers as well as the current state of arts education. Your inputs will help in designing a professional development (PD) to enhance the teaching of the subject. Your candid responses shall be treated with utmost confidentiality.

SECTION 1: BACKGROUND INFORMATION

- 1. Can you briefly describe your role and experience as a headteacher?**
 - Probe: How long have you been in this position?
 - What are your key responsibilities?
- 2. Could you tell us about the profile of CAD teachers in your school?**
 - Probe: What is their level of experience, qualifications, and training background?
- 3. What is your perspective on the importance of Creative Arts and Design in the school curriculum?**
 - Probe: How is CAD perceived by other staff, students, and parents?
- 4. What are your expectations for CAD teachers in delivering the curriculum?**
 - Probe: What competencies do you believe are necessary for effective teaching of CAD?
- 5. What challenges do CAD teachers in your school face in teaching the subject?**
 - Probe: Are there specific difficulties related to curriculum delivery, student engagement, or resource availability?
- 6. What gaps do you see in the current training and professional development of CAD teachers?**
 - Probe: How do these gaps impact their teaching effectiveness?

7. **In what areas do you believe CAD teachers need further development or support?**
 - Probe: Could you highlight any specific skills or knowledge areas?
8. **What resources or support systems are currently available to CAD teachers in your school?**
 - Probe: How effective are these resources in helping them meet the demands of the curriculum?
9. **What additional resources or support do you think would be beneficial for CAD teachers?**
 - Probe: Are there any specific tools, training, or materials that could help?
10. **What type of professional development activities do you think would be most effective for CAD teachers?**
 - Probe: Do you prefer workshops, mentorship, peer collaboration, or online courses?
11. **How often do you think CAD teachers should engage in professional development activities?**
 - Probe: What is the best format for these activities (e.g., during school hours, after school, weekends)?

7.8 APPENDIX G1: HEADTEACHERS' TRANSCRIPTS

Date: February 15, 2023

Time: 10:00 AM - 11:30 PM

Location: Sagnarigu Municipal Education Office Conference Room

Moderator: Al-hassan Bawa

Number of Participants: 10 Headteachers

Introduction

[10:00 AM]

Bawa: Good morning, everyone. Thank you for joining us today for this important discussion on Creative Arts and Design education in our schools. This focus group is part of a study aimed at understanding the current needs and challenges faced by CAD teachers, as well as the current state of arts education. Your contributions will be important in designing professional development programs to enhance the teaching of the subject. I want to assure you that your responses will be treated with utmost confidentiality. Let's begin by introducing ourselves.

[Headteachers introduced themselves]

[10:10 AM]

Bawa: Let's start by discussing your roles and experiences as headteachers. Could you briefly describe your position and how long you've been in this role?

Headteacher 1 [10:11 AM]: I've been a headteacher for 15 years now. My key responsibilities include overseeing curriculum implementation, managing staff, and ensuring the overall quality of education in my school.

Bawa [10:13 AM]: Thank you. Now, could you tell us about the profile of CAD teachers in your schools? What is their level of experience, qualifications, and training background?

Headteacher 2 [10:14 AM]: We do not have the creative art master so we do not teach it. We assigned it to an old man who is due for retirement just for formality because he cannot teach it.

Headteacher 3 [10:16 AM]: In our school, Sir please we do not offer the subject here because none of my teachers specialized in Creative Arts.

Section 2: Perceptions of Creative Arts and Design Education

[10:20 AM]

Bawa: What is your perspective on the importance of Creative Arts and Design in the school curriculum? How is it perceived by other staff, students, and parents?

Headteacher 4 [10:21 AM]: While we recognize its importance, implementation has been challenging. The students enjoy the lessons because it is a play-based learning and fun. You know they already like entertainment. However, some staff and parents don't see it as essential as other subjects.

Bawa [10:23 AM]: Interesting. What are your expectations for CAD teachers in delivering the curriculum? What competencies do you believe are necessary for effective teaching of CAD?

Headteacher 5 [10:24 AM]: We expect them to be skilled in various art forms and able to engage students creatively. However, for this school, we have a specialist art teacher but the resources are not there to enable them to teach effectively. You know it is a practical course and it requires a lot of tools and materials but we do not have them.

Bawa: What challenges do CAD teachers in your schools face in teaching the subject? Are there specific difficulties related to curriculum delivery, student engagement, or resource availability?

Headteacher 6 [10:31 AM]: I do not know what the policy makers are thinking. You don't have teachers to teach a subject but you introduced it in the schools. You did not also give teachers adequate training to enable them handle the subject. How do you expect the teachers to teach it knowing that it is a technical area?

Bawa [10:33 AM]: That's a significant challenge. What gaps do you see in the current training and professional development of CAD teachers?

Headteacher 7 [10:34 AM]: They organized a two-day training for the teachers but my teachers who attended it said the training was not effective so they cannot teach the subject.

Bawa [10:36 AM]: In what areas do you believe CAD teachers need further development or support?

Headteacher 8 [10:37 AM]: The teachers complained of the scale and music notations aspects of the curriculum but they are able to handle the other areas. They need more in-depth training in these technical aspects.

Bawa: What resources or support systems are currently available to CAD teachers in your schools?

Headteacher 1 [10:46 AM]: We wrote to the office that we needed a creative arts teacher but they posted two teachers to the school. These two teachers are not creative art teachers so they said they cannot teach it. So, we lack both human and material resources.

Bawa [10:48 AM]: What additional resources or support do you think would be beneficial for CAD teachers?

Headteacher 2 [10:49 AM]: We need specialized teachers, proper training, and adequate teaching materials. I did follow up on several occasions at the office just for them to get me a creative art teacher but I could not get any. It seems the number of teachers who offered as professional teachers are very few in the system. So it is a big challenge.

Bawa: What type of professional development activities do you think would be most effective for CAD teachers?

Headteacher 3 [11:01 AM]: We need more than just short workshops. Perhaps a combination of intensive training, mentorship, and ongoing support would be more effective.

Bawa [11:03 AM]: How often do you think CAD teachers should engage in professional development activities? What format would work best?

Headteacher 4 [11:04 AM]: Regular, ongoing training would be ideal. However, we need to consider the challenges of rural settings. A teacher came that he needed assurance to be posted to this school and I was very happy. But I later saw him in one of the urban schools because this is a rural setting that's why he ran away. So, we need to think about accessibility and incentives for teachers in rural areas.

Bawa: Thank you all for your great inputs today. It's clear that while there are significant challenges in implementing CAD education, there are also opportunities for improvement through better resource allocation, targeted professional development, and policy adjustments. Your feedback will be invaluable in addressing these challenges and enhancing CAD education in our municipality. Do you have any final thoughts or suggestions?

[Final comments from headteachers]

[11:30 AM]

Bawa: Thank you once again for your participation. Your candid responses will be treated with utmost confidentiality and will greatly contribute to our study.

Post-Discussion Notes

- Group dynamics were collaborative, with all headteachers actively participating
- Dominant themes included lack of qualified teachers, resource shortages, and ineffective training programs
- Unexpected topic: positive student engagement despite challenges
- No technical issues encountered during the session
- Headteachers showed a strong desire for improved support and resources for CAD education

7.9 APPENDIX H: FOCUSED-GROUP DISCUSSION GUIDE FOR ART EDUCATIONISTS

Introduction

We are here to collaboratively design the objectives and goals for a Professional Development (PD) program tailored specifically for Creative Arts and Design (CAD) teachers. Your inputs are crucial in ensuring that the program effectively meets the needs of these educators. Your input will be kept confidential so I would be grateful if you could be open and provide valuable information in this discussion.

1. **What do you perceive as the key challenges faced by CAD teachers in today's educational environment?**
 - Probe: Are there specific issues related to curriculum implementation, student engagement, or resource availability?
2. **How would you describe the current level of CAD teachers' skills and knowledge in areas such as differentiated instruction, project-based learning, and technology integration?**
 - Probe: What gaps do you think exist in their current capabilities?
3. **Given the challenges and gaps discussed, what should be the primary objectives of the PD program for CAD teachers?**
 - Probe: Should the focus be on enhancing content knowledge, pedagogical skills, or both?
4. **How important is it for the PD program to include components on technology integration in art education?**
 - Probe: What specific technologies or tools should be emphasized?
5. **What role should creativity and innovation play in the PD program's objectives?**
 - Probe: How can we ensure that the program encourages teachers to foster creativity in their classrooms?
6. **What short-term goals should the PD program aim to achieve within the first year?**

- Probe: What measurable outcomes should we expect from participating teachers?
- 7. **What long-term goals do you think the PD program should set for sustaining and improving CAD teaching practices?**
 - Probe: How can we ensure that these goals remain relevant as educational trends evolve?
- 8. **How can the PD program be designed to accommodate the diverse needs of CAD teachers with varying levels of experience and expertise?**
 - Probe: Should there be differentiated pathways or personalized learning options within the program?
- 9. **What content areas should be prioritized in the PD program to align with the curriculum goals of the Basic 7, Basic 8, and Basic 9 textbooks?**
 - Probe: How can we ensure that the content is directly applicable to classroom practices?
- 10. **What delivery methods (e.g., workshops, online modules, peer collaboration) do you think would be most effective in achieving the PD program's goals?**
 - Probe: How can we incorporate active, hands-on learning experiences into the program?
- 11. **How should the PD program integrate continuous assessment and feedback mechanisms to monitor progress and effectiveness?**
 - Probe: What types of assessments would be most useful for teachers?
- 12. **How should we measure the success of the PD program in terms of improving CAD teaching practices?**
 - Probe: What indicators would be most relevant for evaluating the program's impact?
- 13. **What role should art educationists play in the ongoing monitoring and support of CAD teachers following the PD program?**

- Probe: How can we ensure sustained professional growth beyond the initial PD sessions?

7.10 APPENDIX H1: ART EDUCATIONISTS' TRANSCRIPTS

Date: March 20, 2024

Time: 14:00 - 15:30

Researcher: Good afternoon, everyone. Thank you for joining us today for this focused-group discussion on designing a Professional Development program for Creative Arts and Design teachers. Let's begin with our first question. What do you perceive as the key challenges faced by CAD teachers in today's educational environment?

Headteacher 1 (14:05): "I'd say one of the biggest challenges is the lack of resources. Many schools don't have proper art supplies or dedicated spaces for creative activities."

Headteacher 2 (14:07): "Agreed. And to add to that, there's often a misunderstanding of the importance of creative arts in the curriculum. We're sometimes seen as less important than 'core' subjects."

Researcher: Those are excellent points. Are there any specific issues related to curriculum implementation or student engagement?

Headteacher 3 (14:10): "Absolutely. The curriculum can be quite rigid, making it difficult to implement project-based learning effectively. We need more flexibility to engage students in meaningful, creative projects."

Researcher: Thank you for those inputs. Moving on, how would you describe the current level of CAD teachers' skills and knowledge in areas such as differentiated instruction, project-based learning, and technology integration?

Headteacher 4 (14:15): "In my experience, there's quite a range. Some teachers are very adept at differentiated instruction, while others struggle. I think there's a general need for more training in these areas."

Headteacher 2 (14:17): "I agree. Particularly when it comes to technology integration. Many of us weren't trained in using digital tools for art education, and it's becoming increasingly important."

Researcher: Given these challenges and gaps, what should be the primary objectives of the PD program for CAD teachers?

Headteacher 1 (14:22): "I believe we need to focus on both content knowledge and pedagogical skills. We need to stay updated on current art trends and techniques, but also learn how to teach them effectively."

Headteacher 3 (14:24): "I'd add that we need objectives around integrating technology and fostering creativity in our teaching methods. These are crucial for engaging today's students."

Researcher: How important is it for the PD program to include components on technology integration in art education?

Headteacher 4 (14:28): "It's absolutely essential. We should cover digital art tools, virtual galleries, and even basics of graphic design software. These are becoming standard in the art world."

Researcher: What role should creativity and innovation play in the PD program's objectives?

Headteacher 2 (14:32): "They should be at the core of everything we do. The program should not just teach us about creativity, but model creative approaches to education."

Researcher: Shifting gears a bit, what short-term goals should the PD program aim to achieve within the first year?

Headteacher 3 (14:37): "I think we should aim for measurable improvements in teachers' confidence with technology and project-based learning. Maybe we could set a goal for each teacher to implement at least two new tech-based projects in their classroom."

Researcher: And what about long-term goals for sustaining and improving CAD teaching practices?

Headteacher 1 (14:42): "We should aim to create a community of practice among CAD teachers. Long-term, this could involve regular sharing sessions, maybe even a yearly conference or exhibition of student work."

Researcher: How can the PD program be designed to accommodate the diverse needs of CAD teachers with varying levels of experience and expertise?

Headteacher 4 (14:47): "Perhaps we could have a tiered system? Basic, intermediate, and advanced tracks for different topics. Teachers could mix and match based on their needs."

Researcher: What content areas should be prioritized in the PD program to align with the curriculum goals of the Basic 7, Basic 8, and Basic 9 textbooks?

Headteacher 2 (14:52): "We should definitely cover the key art forms in the curriculum - visual arts, performing arts, and digital media. But we also need to focus on how to integrate these with other subjects for a more holistic approach."

Researcher: What delivery methods do you think would be most effective in achieving the PD program's goals?

Headteacher 3 (14:57): "I think a blended approach would work best. Some online modules for flexibility, but also in-person workshops for hands-on learning. And definitely peer collaboration opportunities."

Researcher: How should we measure the success of the PD program in terms of improving CAD teaching practices?

Headteacher 1 (15:02): "We could use a combination of methods. Surveys of teachers' confidence levels, classroom observations, and maybe even looking at student engagement and performance in CAD classes."

Researcher: Finally, what role should art educationists play in the ongoing monitoring and support of CAD teachers following the PD program?

Headteacher 4 (15:07): "We should act as mentors and facilitators. Perhaps we could set up a system where experienced teachers or educationists are paired with newer teachers for ongoing support and feedback."

Researcher: Thank you all for your relevant information. This discussion will greatly help in shaping our Professional Development program for CAD teachers.

7.11 APPENDIX I: EVALUATION QUESTIONNAIRE

QUANTITATIVE EVALUATION QUESTIONNAIRE

Section A: Demographic Information

1. Gender: ☐ Male ☐ Female
2. Age: ☐ 20-30 ☐ 31-40 ☐ 41-50 ☐ 51-60
3. Years of teaching: ☐ 0-5 ☐ 6-10 ☐ Above 10years
4. School Location: ☐ Urban ☐ Peri-urban ☐ Rural

Section B: Pre-Program Self-Assessment

5. On a scale of 1 to 10, how would you rate your teaching skills in CAD before attending the PD program? (1 = Very Poor, 10 = Excellent)

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

6. On a scale of 1 to 10, how confident were you in your ability to teach CAD before attending the PD program? (1 = Not Confident, 10 = Very Confident)

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

Section C: Post-Program Self-Assessment

7. On a scale of 1 to 10, how would you rate your teaching skills in CAD after completing the PD program? (1 = Very Poor, 10 = Excellent)

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

8. On a scale of 1 to 10, how confident are you now in your ability to teach CAD after completing the PD program? (1 = Not Confident, 10 = Very Confident)

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

Section D: Adoption of New Teaching Practices

9. Do you regularly implement differentiated instruction strategies in your classroom?

☐ Yes

☐ No

10. How often do you use technology tools in your classroom?

☐ Always

☐ Often

☐ Sometimes

☐ Rarely

☐ Never

11. How often do you employ project-based learning approaches?

☐ Always

☐ Often

☐ Sometimes

☐ Rarely

☐ Never

12. How often do you integrate arts into other subject areas?

☐ Always

☐ Often

☐ Sometimes

☐ Rarely

☐ Never

Section E: Student Engagement and Learning Outcomes

13. Have you noticed an increase in student engagement levels in your CAD lessons since attending the PD program?

☐ Yes

☐ No

14. Based on your assessments, have student performance scores in CAD subjects improved since attending the PD program?

☐ Yes

☐ No

Section F: Classroom Observations

15. On a scale of 1 to 10, how effective were your pedagogical strategies before the PD program? (1 = Not Effective, 10 = Very Effective)

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

16. On a scale of 1 to 10, how effective are your pedagogical strategies now after the PD program? (1 = Not Effective, 10 = Very Effective)

1	2	3	4	5	6	7	8	9	10
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Section G: Feedback on PD Program Effectiveness

17. How would you rate the overall effectiveness of the PD program in improving your teaching skills and practices?

☐ Highly Effective

☐ Effective

☐ Neutral

☐ Ineffective

☐ Highly Ineffective

18. Would you recommend this PD program to your colleagues?

☐ Yes

☐ No

Section H: Additional Comments

19. Please provide any additional comments or suggestions for improving the PD program.

[illegible]

7.12 APPENDIX J: FOCUSED-GROUP DISCUSSION AFTER PEDAGOGICAL WORKSHOPS

Introduction

This guide is designed to gather information from teachers after participating in pedagogical workshops. The questions focus on their experiences, challenges, and how they plan to apply what they learned in the pedagogical workshops.

1. How did you find working with the materials provided?
2. Can you elaborate on how the textbooks and guides helped you during the workshops?
3. How did you find working collaboratively with your peers?
4. Can you give an example of a group project you worked on?
5. Did you find this approach effective?
6. Can you give an example of how theory and practice were integrated in a specific lesson?
7. How did you find the step-by-step instructions provided by the experienced art educators?
8. Did anyone find any aspects of the practical sessions challenging?
9. Does anyone else have thoughts on the time allocation for different activities?
10. What are final your thoughts on how these practical sessions have prepared you for implementing the new creative arts and design curriculum in your classrooms.

7.13 APPENDIX J1: TEACHERS' FOCUSED-GROUP TRANSCRIPTS

Date: June 29, 2024

Time: 2:00 PM - 3:30 PM

Researcher (2:00 PM): Good afternoon, everyone. Thank you for joining us today to discuss your experiences with the practical aspects of the CAD PD programme. Let's start by talking about the hands-on practice sessions. How did you find working with the materials provided?

Teacher 1 (2:03 PM): The hands-on practice was incredibly valuable. Using the materials and following the demonstrations, I felt more confident in my ability to teach these techniques to my students. The textbooks and guides were excellent resources that provided clear instructions and examples.

Researcher (2:05 PM): That's great to hear. Can you elaborate on how the textbooks and guides helped you during the workshops?

Teacher 1 (2:07 PM): Certainly. The Basic 7, 8, and 9 textbooks and teachers' guides were really helpful. They provided structured lesson plans and clear objectives for each art project. It made it easier to understand how to integrate the theoretical concepts with the practical activities we were doing.

Researcher (2:09 PM): Thank you for that information. Now, let's talk about the group projects. How did you find working collaboratively with your peers?

Teacher 2 (2:11 PM): Working on group projects was a fantastic experience. It helped me see how I can encourage my students to collaborate and learn from each other. The practical activities were enjoyable and educational.

Researcher (2:13 PM): That's wonderful. Can you give an example of a group project you worked on?

Teacher 2 (2:15 PM): Sure. We worked on creating papier-mâché masks as a group. It was really interesting to see how everyone brought different ideas and skills to the project. We had to discuss our design, divide tasks, and provide feedback to each other throughout the process. It really mirrored how we could facilitate group work in our own classrooms.

Researcher (2:18 PM): That sounds like a relevant experience. Let's move on to discuss how the workshops integrated theory and practice. Did you find this approach effective?

Teacher 3 (2:20 PM): The integration of theory and practice was very effective. It helped me understand how to explain the concepts behind each art project, making the lessons more meaningful for my students.

Researcher (2:22 PM): Can you give an example of how theory and practice were integrated in a specific lesson?

Teacher 3 (2:24 PM): Yes, during the clay sculpting session, we didn't just learn the techniques of working with clay. We also discussed the principles of form and texture in sculpture, and how to explain these concepts to students. We learned about differentiated instruction too, like how to adjust the complexity of the project for students with different skill levels.

Researcher (2:27 PM): That's an excellent example, thank you. Now, I'd like to hear about the demonstration sessions. How did you find the step-by-step instructions provided by the experienced art educators?

Teacher 4 (2:29 PM): The demonstrations were very clear and helpful. It was great to see experienced educators showing us exactly how to use the different materials and techniques. For example, when we were learning about drawing and shading with pencils and crayons, the instructor showed us various techniques step-by-step. It made me feel much more prepared to teach these skills to my students.

Researcher (2:32 PM): That's great to hear. Did anyone find any aspects of the practical sessions challenging?

Teacher 5 (2:34 PM): While the sessions were generally very good, I sometimes felt we could have used more time with certain materials. For instance, I would have liked more practice with the papier-mâché. It's not a material I'm very familiar with, and I think more time would have helped me feel more confident about using it in my classroom.

Researcher (2:37 PM): Thank you for that feedback. It's helpful to know where we might need to allocate more time in future workshops. Does anyone else have thoughts on the time allocation for different activities?

[Several teachers nod in agreement]

Teacher 1 (2:39 PM): I agree with that. While I found all the activities important, some of the more complex techniques could benefit from extended practice time.

Researcher (2:41 PM): Thank you all for your input. As we wrap up, I'd like to hear your thoughts on how these practical sessions have prepared you for implementing the new creative arts and design curriculum in your classrooms.

Teacher 2 (2:43 PM): I feel much more prepared now. The hands-on experience with different materials and techniques, combined with the theoretical background we received, has given me a solid foundation to work from. I'm excited to try out some of these projects with my students.

Teacher 3 (2:45 PM): I agree. I also appreciate how the workshops showed us how to use the textbooks and guides effectively. It's given me a clear roadmap for implementing the curriculum.

Researcher (2:47 PM): That's wonderful to hear. Thank you all for your time and information today. Your feedback is invaluable for improving and refining our professional development programme.

[Teachers express thanks and the session concludes]

Researcher (3:30 PM): This concludes our focus group discussion. Thank you all once again for your participation.

7.14 APPENDIX K: FOCUSED-GROUP GUIDE ON EVALUATION OF THE WORKSHOPS

Introduction

This guide is designed to gather views from teachers after participating in practical, hands-on Creative Arts and Design (CAD) workshops. The questions focus on their experiences, challenges, and how they plan to apply what they learned in their classrooms. The questions are aligned with specific workshop activities, providing opportunities for teachers to reflect on key components.

1. Can you share your thoughts on the practical aspects of the sessions?
2. Can you elaborate on how this hands-on approach affected your teaching practice?
3. Has anyone tried new methods as a result of the programme?
4. How about collaboration with your peers during the programme?
5. Did anyone find certain aspects of the programme difficult?
6. Were there any specific areas where you felt you needed more time or depth?
7. As we wrap up, does anyone have any final thoughts on how the programme has impacted your teaching or professional growth?

7.15 APPENDIX K1: TRANSCRIPTS ON EVALUATION OF WORKSHOPS

Date: July 5, 2024

Time: 14:00 - 15:30

Researcher: Good afternoon, everyone. Thank you for joining us today to discuss your experiences with the CAD PD programme. Let's start by talking about the workshops. Can you share your thoughts on the practical aspects of the sessions?

Teacher 1 (14:05): The interactive sessions were amazingly engaging. Being able to practice new techniques and receive immediate feedback was a game-changer for my teaching.

Researcher (14:07): That's great to hear. Can you elaborate on how this hands-on approach affected your teaching practice?

Teacher 2 (14:09): For me, it really bridged the gap between theory and practice. I felt much more confident applying what we learned directly in my classroom.

Researcher (14:11): Interesting. Let's move on to discussing any changes in your teaching approach. Has anyone tried new methods as a result of the programme?

Teacher 3 (14:13): Absolutely. Before the programme, I was hesitant to try project-based learning, but now I feel equipped and excited to implement it. The resources and support provided were exceptional.

Researcher (14:15): That's a significant change. How about collaboration with your peers during the programme?

Teacher 4 (14:17): The group discussions and peer review sessions were helpful. Sharing ideas and learning from my colleagues opened up new perspectives and teaching methods I hadn't considered before.

Researcher (14:19): It seems the collaborative aspect was really crucial. Now, let's discuss any challenges or areas for improvement. Did anyone find certain aspects of the programme difficult?

Teacher 5 (14:21): The workshops were really informative, but at times, it felt like there was so much to absorb in a short period. A longer programme would give us more time to delve deeper into each topic.

Researcher (14:23): Thank you for that feedback. Were there any specific areas where you felt you needed more time or depth?

Teacher 6 (14:25): I appreciated the introduction to various technology tools, but I would benefit from more detailed sessions on how to use these tools effectively in my classroom.

Researcher (14:27): That's helpful information. As we wrap up, does anyone have any final thoughts on how the programme has impacted your teaching or professional growth?

Teacher 7 (14:29): Overall, I feel much more confident in my teaching abilities now. The programme has really motivated me to experiment with new strategies and keep improving my skills.

Researcher (14:31): Thank you all for your significant input. This discussion has provided great information into the strengths of the programme and areas where we can potentially improve in the future.

7.16 APPENDIX L: OBSERVATION GUIDE FOR PEDAGOGICAL WORKSHOPS

Researcher: _____

Workshop Title: _____

Date: _____

Location: _____

Key Areas of Focus

1. Participant Engagement

Criteria: Observe how actively the teachers participate in the workshops, including asking questions, engaging with the facilitator, and involvement in group discussions.

Indicators:

High engagement: Frequent participation, asking questions, making comments, contributing to discussions.

Moderate engagement: Occasional participation, listening attentively but not often contributing verbally.

Low engagement: Minimal participation, disengaged body language (e.g., looking away, not interacting).

Questions to Ask:

Are teachers actively participating in discussions and hands-on activities?

How frequently do teachers ask questions or seek clarification from the facilitator?

Do participants seem engaged and motivated by the workshop content?

Notes:

2. Collaboration Among Teachers

Criteria: Observe the level of collaboration between teachers during group activities and discussions.

Indicators:

High collaboration: Frequent communication, sharing ideas, working well in teams.

Moderate collaboration: Some communication, but limited sharing of ideas or teamwork.

Low collaboration: Minimal communication or teamwork, teachers working individually during group tasks.

Questions to Ask:

Are teachers sharing resources and strategies with each other?

How effective are group dynamics during collaborative tasks?

Do teachers rely on each other for support and feedback?

Notes:**3. Hands-On Practice**

Criteria: Observe how teachers engage with practical activities, such as using art materials, creating projects, or implementing new teaching strategies.

Indicators:

High engagement: Teachers are comfortable and confident while handling tools, experimenting with new techniques.

Moderate engagement: Teachers participate but are hesitant or need guidance.

Low engagement: Teachers avoid hands-on activities or show discomfort with materials.

Questions to Ask:

How comfortable are teachers in using art materials such as clay, crayons, and other resources provided?

Are teachers able to implement the theoretical concepts in the hands-on projects?

Are there visible signs of confidence or hesitation in using new techniques?

Notes:

4. Facilitator-Teacher Interaction

Criteria: Observe how the facilitator interacts with the participants and how responsive teachers are to the facilitator's guidance.

Indicators:

Strong interaction: Teachers actively seek feedback and clarification from the facilitator, who engages with participants frequently.

Moderate interaction: Occasional teacher-facilitator engagement, but not consistent.

Weak interaction: Limited interaction between teachers and the facilitator.

Questions to Ask:

Is the facilitator approachable and responsive to participants' needs?

How well does the facilitator provide feedback to individual teachers?

Do teachers feel comfortable seeking help or guidance from the facilitator?

Notes:

5. Integration of Theory and Practice

Criteria: Assess how well teachers are able to integrate the theoretical knowledge discussed in the workshops into practical classroom applications.

Indicators:

Strong integration: Teachers clearly demonstrate understanding and application of theory in hands-on tasks.

Moderate integration: Some understanding of theory, but challenges in practical application.

Weak integration: Little to no connection between theory and practice.

Questions to Ask:

Are teachers able to relate the theoretical concepts from the workshop to their practical teaching strategies?

How effectively do they implement differentiated instruction, project-based learning, and other strategies taught?

Are teachers able to translate workshop lessons into actionable classroom plans?

Notes:

6. Non-Verbal Communication

Criteria: Observe non-verbal cues such as body language, facial expressions, and gestures to assess engagement and comfort levels.

Indicators:

Positive non-verbal cues: Smiling, nodding, engaged posture, focused on activities.

Neutral non-verbal cues: Passive body language, limited facial expressions.

Negative non-verbal cues: Fidgeting, avoiding eye contact, appearing distracted.

Questions to Ask:

Are teachers showing signs of interest or engagement through their body language?

Do any participants display discomfort or frustration with the workshop activities?

Are there any visible changes in non-verbal communication as the workshop progresses?

Notes:

7. Overall Workshop Atmosphere

How would you describe the general atmosphere of the workshop (e.g., supportive, tense, collaborative)?

Were there any significant moments or observations that stood out during the session?

8. Final Observations and Conclusions

Summary of Observations:

Provide a brief summary of the overall engagement, collaboration, and effectiveness of the pedagogical workshop.

7.17 APPENDIX M: OBSERVATION NOTES FOR PEDAGOGICAL WORKSHOPS

Researcher: A-hassan Bawa

Workshop Title: Pedagogical workshops for Creative Arts and Design Teachers

Date: 25th May to 3rd July 2024

Location: Sagnarigu Junior High School Auditorium

1. Participant Engagement

Notes:

Throughout the workshop, the level of participant engagement was moderate to high. Teachers actively participated in most group discussions, although some were initially hesitant to contribute. However, as the session progressed, more teachers began to raise questions and share their experiences with the facilitator and peers. At the start of the session on differentiated instruction, about 50% of the participants asked clarifying questions, indicating a genuine interest in understanding how to adapt their teaching to the diverse learning needs of students. Non-verbal cues such as nodding and note-taking suggested attentiveness, though a few participants appeared disengaged, often looking at their phones.

Key Observation: One teacher, Mariam, asked multiple insightful questions during the project-based learning (PBL) discussion, reflecting her deep engagement with the content. "How can I integrate PBL when resources are limited?" she asked, initiating a collaborative discussion on overcoming challenges with limited materials.

Engagement Level: Moderate to High.

2. Collaboration Among Teachers

Notes:

Collaboration among teachers was highly visible during the group activities, especially in the project-based learning exercise. Teachers worked together to brainstorm and design lesson plans, openly sharing ideas and strategies.

The atmosphere was supportive, with teachers helping each other by suggesting ways to incorporate art materials like clay and crayons into their lesson plans.

Key Observation: One group, consisting of three teachers from different schools, actively exchanged ideas on how to use papier-mâché for creating sculptures in class. They seemed comfortable working together, with one teacher commenting, "I've never worked with this material before, but thanks to the input from my colleagues, I now feel confident trying it out in class."

Collaboration Level: High.

3. Hands-On Practice

Notes:

The hands-on practice sessions were a highlight of the workshop. Teachers were provided with a variety of materials (crayons, clay, sketchpads, etc.) and were encouraged to create their own art projects. Most participants seemed eager to dive into the practical aspect of the training, especially after seeing the facilitators demonstrate key art techniques. However, a few teachers hesitated at first, unsure of how to handle the materials.

Key Observation: One teacher, John, appeared reluctant to begin working with the clay but soon became more comfortable after watching a demonstration. "I've always been more of a theory teacher, but this workshop is showing me how to bring art to life in my classroom," he remarked as he shaped a clay figure.

Engagement with Hands-On Practice: High for most participants, though some required extra guidance initially.

4. Facilitator-Teacher Interaction

Notes:

The facilitators were approachable and responsive throughout the workshop. They provided continuous feedback during group discussions and practical sessions. Participants frequently sought clarification, especially during the hands-on portions.

The facilitators moved around the room, offering personalized support and advice to each group. This interaction fostered a supportive learning environment and encouraged more teachers to ask questions or seek feedback.

Key Observation: During the lesson on integrating arts with other subjects, one facilitator provided one-on-one feedback to a teacher struggling with using technology in art instruction. "Don't worry about mastering it all at once," the facilitator reassured, "start small, and build up gradually." This support visibly boosted the teacher's confidence.

Interaction Level: High.

5. Integration of Theory and Practice

Notes:

The integration of theory and practice was a key focus of the workshop. Teachers were tasked with applying the theoretical knowledge they gained from the curriculum into practical lesson plans. By the end of the session, most participants demonstrated a clear understanding of how to align theory with practice, as evidenced by the detailed lesson plans they developed using the Basic 7, Basic 8, and Basic 9 textbooks.

Key Observation: One group created a lesson plan that incorporated differentiated instruction, using tiered assignments to cater to students with different skill levels. "It's one thing to understand the theory behind differentiated instruction, but another to actually implement it. This workshop helped me bridge that gap," noted one teacher.

Integration Level: Strong.

6. Non-Verbal Communication

Notes:

Non-verbal cues were a strong indicator of the participants' overall comfort and engagement levels. Most teachers appeared relaxed, smiling and nodding in agreement during group discussions. However, a few teachers displayed signs of

uncertainty or discomfort, such as avoiding eye contact during certain hands-on tasks. Over time, as the facilitators provided more guidance and encouragement, the hesitancy decreased.

Key Observation: At the beginning of the workshop, a few participants were hesitant to engage in the practical activities. By the end of the day, however, most of them were visibly more confident, with one teacher commenting, "I was nervous at first, but now I feel like I can actually teach this in my class."

Non-Verbal Engagement Level: Positive for most participants, though a few showed initial discomfort.

7. Overall Workshop Atmosphere

Notes:

The overall atmosphere of the workshop was collaborative and supportive. Teachers were generally enthusiastic, especially during group activities and practical sessions. There was a sense of camaraderie among the participants, and the facilitators did an excellent job fostering a non-judgmental environment where teachers felt comfortable asking questions and sharing ideas.

Key Observation: A teacher remarked toward the end of the workshop, "This was the most practical training I've had in a long time. I'm excited to implement these strategies in my classroom."

Overall Atmosphere: Supportive, Collaborative, and Engaging.

8. Final Observations and Conclusions

The pedagogical workshops were highly effective in engaging CAD teachers in both theoretical and practical learning experiences. Teachers showed a high level of collaboration, especially during group tasks, and most participants demonstrated an improved understanding of how to integrate hands-on activities into their lessons. Facilitator support was crucial in building confidence among the teachers, particularly those who were initially hesitant to engage with the

materials. Overall, the workshop provided a positive and enriching professional development experience for all participants.