

**GRADUATE ARTISTS IN THE CLASSROOM: THE STATE OF NON-  
PROFESSIONAL GRADUATE TEACHERS IN GHANA**

**By**

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## DECLARATION

I hereby declare that this submission is my own work towards the MPhil Art Education degree and that to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any degree of the university, except where due acknowledgement has been made in the text.

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## **ABSTRACT**

Effective teaching and learning are paramount to education stakeholders in Ghana and discussions are ongoing about how to achieve this across all educational levels. The existence of untrained university graduate teachers who are classified as Non-professional Graduate Teachers under the Ghana Education Service, in the teaching field is inevitable yet there is limited information on their state as facilitators of effective learning. ‘State’ in this study is defined as the conditions and performance of the graduates who serve as teachers, in terms of their strength, challenges and their performance in ensuring effective teaching and learning. Both Qualitative and quantitative research design were used for this study. With the technique of qualitative and quantitative descriptive research designs, the objectives which sought for factors that influence the Art graduates to become teachers, their strengths and the challenges they encounter in performing their task and whether they are successful as effective teachers were achieved. This was aided by document analysis, interviews, observations and administration of questionnaires. Graduates of Industrial Art Department, KNUST from 2003 to 2012 were used as case study. Fifty four (54%) of the respondents had been teachers after the Industrial Art Programme out of which 70.4% were still teaching. The study revealed that the Art graduates have little interest in becoming teachers while in school but a significant number of them end up in the teaching profession as compared with the Art Industry. Also, the study brought to light that the graduates are more efficient in areas such as content knowledge of the subjects they teach, planning and preparation of lessons and students’ assessment compared with other skills such as delivery mechanisms and addressing students learning needs.

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## **CHAPTER ONE**

### **1.0 INTRODUCTION**

#### **1.1 Background to the Study**

Graduate unemployment is a big issue in Ghana. Amoo (2012) asserts that graduate unemployment is a bigger problem of youth unemployment because graduates form a skilled set of labour yet they cannot find a place in the job market, which has resulted in the questioning of the relevance of the university curricula in Ghana.

The Art programmes offered at the University level in Ghana are primarily meant to train students for the art industry so they can take positions in management, research, manufacturing in textiles, graphic designing and metal smithing, and other art professions. However, there are not enough places for all graduates in the Art Industry and therefore many are taking teaching positions at different levels of education in Ghana.

Personal experience of Art Education in the Industrial Art Department of Kwame Nkrumah University of Science and Technology shows that only a few alumni have been able to establish businesses in the Art Industry whilst many have diverted into different career fields, and others are unemployed.

The Department of Industrial Art is part of the Faculty of Art which is within the College of Art and Built Environment in KNUST. It consists of three sections: Metal Products Design, Textiles, and Ceramics. The department offers four-year undergraduate programmes leading to a Bachelor of Art degree in Industrial Art, with specializations in

Metal Products Design, Textiles and Ceramics major and a two-year postgraduate programme which leads to a Master of Fine Art (MFA) or Master of Arts (MA) degree.

The programme, as stated on the Industrial Art KNUST website, is intended “to nurture students to pursue their individual aesthetic direction so as to develop a strong independent personal vision”. It is therefore the responsibility of the sections under the department to produce high-level manpower in their respective disciplines for the Ghanaian economy. Graduates of the department, according to the website, are successfully engaged in industry, Commerce and Teaching.

Pupil - teacher ratio is one of the major challenges facing the Ghana Education Service for a while now (Tettey, 2011; Pacas, 2014); this has consequently contributed to the employment of untrained teachers to fill the vacancies and reduce high pupil-teacher ratios. This has also resulted in teachers teaching subjects that they have not specialized in, such as Creative Art in Primary schools and Information and Communication Technology (ICT) in some Junior High Schools. Also, a lot of graduates with no background in Education are sent into teaching as an obligation to the National Service Scheme after university (Mubarik, 2012) with a number of them taking up teaching as a career after their service. Other graduates also join the teaching profession from other sectors after their service. A study by Druyeh (2008) reveals that 60% of the graduates of the Integrated Rural Art and Industry programme in KNUST were working in the Ghana Education Service as teachers and educational workers.

According to Ostin (2012), performance of the Junior High School students in the Basic Education Certificate Examination (BECE) in 2012 nationwide was poor, with most

schools scoring below 50%, partly due to the presence of untrained teachers in Ghanaian schools. The Ghana Education Service indicates that poor performance of pupils is associated with factors such as high percentage of untrained or non-professional teachers in the classrooms (Danso, 2011). In this regard, Nyoagbe (n.d.) cites the example of Northern Region of Ghana where the population of untrained teachers is more than thirty percent of the teacher force. Untrained or non-professional teachers, as defined by Akyeampong (2003), includes all teachers who have not gone through the formal or professional teacher training, which includes degree holders who have no certificate in Education. Although there are untrained graduate teachers teaching in Junior and Senior High Schools and in some Higher Education Institutions in Ghana, there are others who have the interest to teach but would rather not pursue it due to lack of confidence and the skills to teach.

## **1.2 Statement of the Problem**

Quite a lot of courses in universities across the globe add teaching as one of the prospective careers for their students regardless of the course content not being directed at teacher training. It is commonly said that “anyone can teach” and often, university graduates are expected to be able to teach, at least, at the lower levels of education.

The Industrial Art Undergraduate programme (CASS Handbook, 2007) is intended “to train students in theoretical and practical aspects of Metals, Textiles and Ceramics and to produce graduates with the requisite knowledge and skills to take up positions in the following areas: manufacturing, commerce, teaching, Research and Development”.

However, personal experience of the four-year Industrial Art Programme in Metal Products Design shows no clear sign that an aim of the programme is to equip students to take up positions as teachers although, a number of alumni of the Industrial Art Department in KNUST over the years have ended up in the classroom as teachers.

According to Rao (n.d.), teachers have many challenges to face in today's classrooms, and if they are found wanting in their depth of knowledge and teaching techniques, they will end up as failures. In Rao's opinion, today's teacher has to be equipped with the proper tools to face the challenges effectively. Thus teachers have to be equipped with knowledge in areas such as teaching methods, practices, content delivery mechanisms, effective and creative teaching techniques and effective classroom management. In other words, having knowledge about a given topic is good but knowing the right way to effectively transfer the knowledge such that students can easily comprehend, retain and apply it successfully is the challenge which require the teacher having additional knowledge and the skills required to manage teaching, students and learning.

As intellectuals yet untrained as teachers, can professional Art graduates be efficient as teachers and what awaits them in the classrooms? There is therefore the need to unveil the state of Art graduates who are teaching with no formal teacher training in terms of their strengths and the challenges they encounter in performing their tasks effectively and their effectiveness as teachers.

### **1.3 Objectives of Study**

1. To identify Art graduates who have taken up teaching positions and discuss the factors that influenced their choice of career.
2. To examine and discuss the strengths of Art graduates who function as teachers and the challenges they encounter on the job as untrained teachers.
3. To ascertain the state of the Art graduates in ensuring effective teaching and learning.

### **1.4 Research Questions**

1. Are there Art graduates who have taken up teaching positions and what are the factors that influence their choice of career?
2. What are the strengths of Art graduates who function as teachers and the challenges they encounter on the job as untrained teachers?
3. What is the state of the Art graduates in ensuring effective teaching and learning?

### **1.5 Delimitation**

The study was limited to the study of the Undergraduate programmes offered by the Industrial Art Department of KNUST and graduates of the department from 2003 to 2012 who have served or are still serving as Non-professional Graduate Teachers. The study also sourced data from final-year students of the department.



## **1.6 Limitations of the Study**

The major limitation of this study was locating the graduates of the Industrial Art department. The study included graduates who have been out of the Industrial Art Programme for as long as nine years and since there was no database to help trace their location easily, the researcher was compelled to use snowball sampling which hindered in acquiring an accurate representation of the scope of study in terms of their year of graduation especially graduates who became teachers temporarily.

## **1.7 Definition of Terms**

**State of graduates:** Conditions and performance of the graduates who serve as teachers.

**Graduate Artist:** A person who has had a first degree in Bachelor of Art in any of the Visual Art programmes.

**Non-professional teacher:** Teachers who have not gone through any teacher education programme to acquire the knowledge, attitudes, behaviours and skills required to perform teacher tasks effectively.

**Art Graduate Teachers:** Graduate Teachers who studied Art for their Bachelor's degree.

**Industrial Art Graduate teachers:** Graduates of the Industrial Art Programme who became teachers after their studies.

**Alumni:** Former students or graduates of a school, college or university.

**Programme:** A course of study.

**Course credit:** A unit which represents a successfully finished part of an educational course.

**Major:** Specialist subject area or main course studied at the university.

## **1.8 Abbreviations**

KNUST:	Kwame Nkrumah University of Science and Technology
GES:	Ghana Education Service
CASS:	College of Art and Social Sciences
BS:	Basic School
JHS:	Junior High School
SHS:	Senior High School
IAD:	Industrial Art Department
IAP:	Industrial Art Programme
IAC:	Industrial Art Curriculum
NSS:	National Service Scheme
IAGT:	Industrial Art Graduate Teachers
BCTF:	British Columbia Teachers' Federation
CUPE:	Canadian Union of Public Employees
LLUK:	Lifelong UK
CEW:	Centre on Education and the Workforce
MET:	Measures of Effective Teaching Project

## **1.9 Importance of the Study**

The study provides information on art graduates of the Faculty of Art in KNUST in the educational sector in Ghana as far as working as untrained teachers in the Art departments in higher education institutions, GES and Heads of schools to enable them have an idea as to how they are performing in the field and what can be done to improve on their productivity.

As periodical assessment is a vital administrative principle for successful organizations, findings from this study provides accurate data about the state of graduate employment among artists, using products of the Industrial Art Department of KNUST as a basis to improve on the current programmes.

The study also provides a database to update the IAD on its graduates. This will serve as a knowledge base and reference material to the Industrial Art Department, students, lecturers and researchers who are interested in the issues of Art graduates' employment.

## **1.10 Organisation of the Rest of the Text**

The study is organised in five chapters. Chapter Two covers the review of literature relevant to the topic. Chapter Three deals with the research approach and design adopted to assist in executing the study, the sample and sampling techniques, data collection and analysis of the data. Chapter Four entails the discussion and analysis of the main findings while Chapter Five presents the summary and conclusions of the study as well as recommendations for improving on the state of the Art Graduates who ends up as teachers.

## **CHAPTER 2**

### **2.0 REVIEW OF RELATED LITERATURE**

#### **2.1 Overview**

The literature reviewed in this chapter centres on Art Graduates, their educational background and certification as well as employment opportunities. The literature also focuses on concepts of teaching and teaching as a career, the teacher's role, and characteristics of an effective teacher, effective teaching and learning, determining effective teaching, teacher training and certification. Finally, the chapter looks at what curriculum and a hidden curriculum entails. The review is intended to reveal empirical and theoretical knowledge on factors that drive graduates who are not trained as teachers to become teacher, the possible qualities they may take to the job and their role in ensuring effective teaching and learning.

#### **2.2 Curriculum**

The definition of curriculum has gone through numerous alterations over the decades and has been defined from different perspectives. The early writers defined curriculum from the perspective of it being a set of subjects or sequence of courses which are planned and written down but the definition has been refined enormously in recent studies to include all learning experiences that are either planned or unplanned. Smith (2000) elucidates that “the meaning of curriculum is a contentious issue that has caused many writers to define it and redefine it” (p.11). For instance, Braslavsky (n.d.) infers that in educational concepts, curriculum can be defined as the educational foundations and contents, their sequencing in

relation to the amount of time available for the learning experiences, the characteristics of the teaching institutions, the characteristics of the learning experiences, in particular from the point of view of methods to be used, the resources for learning and evaluation and teachers' profiles. In this regard, Wilson (2005) clarifies that curriculum originated from a Latin word *curriculum* which literally means *to run a course*, and it reflects the models of instructional delivery chosen and used. Other writers also delineate curriculum as consisting of all the planned experiences that the school offers as part of its educational responsibility (Ebert II, Ebert, & Bentley, 2013). In these contexts, the definition of curriculum is limited to what happens within the classroom or learning environment that is planned or intended to be achieved. This limits curriculum to a scientific course structure or experience for learners. However other definitions address curriculum from a wider perspective where all activities, planned or unplanned are inclusive in the term 'curriculum'.

Oliva (1997) as cited in Wilson (2005) gives curriculum several definitions including 'a programme of study comprising everything that goes on within the school, including extra-class activities, guidance, and interpersonal relationships and that which an individual learner experiences as a result of schooling'. Similarly, Ebert II et al. (2013) have defined curriculum as the means and materials with which students will interact for the purpose of achieving identified educational outcomes. These definitions allow for learning activities that are systematic and those that are inadvertent to all fit under the same term. In line with this, Jackson (1992) as cited in Smith (2000) articulates that curriculum includes the "official curriculum" which is what is announced as being offered by the school, the "enacted curriculum" which is what the teacher is authorized to offer, the "delivered

curriculum” which is what the teacher actually does in the classroom, and the “experienced” or “received curriculum” which is what the pupil has in fact learnt from the classroom experience”, and the “hidden curriculum” which is not planned and could even be malign (p. 12).

According to UNESCO (n.d.), curriculum can be viewed from the perspective where curriculum is what societies envisage as important so that teaching and learning constitute the "intended" curriculum, "implemented" curriculum is what is actually delivered when an intended curriculum is altered through a range of complex classroom interactions and "hidden" curriculum, which is the unintended development of personal values and beliefs of learners, teachers and communities, or the unexpected impact of a curriculum or unforeseen aspects of a learning process.

### **2.2.1 2.1.2 Hidden curriculum**

The hidden curriculum, also referred to as unintended curriculum or implicit curriculum by some authors (Smith, 2000), is defined by Longstreet and Shane (1993) as cited in Wilson (2014) as the kinds of learning children derive from the very nature and organizational design of the school system, as well as from the behaviours and attitudes of teachers and administrators. In agreement, Abbott (2014) asserts that the hidden-curriculum concept is based on the recognition that students absorb lessons in school that may or may not be part of the formal course of study through activities and interactions such as with peers, teachers and lessons. This implies that in addition to the structured courses, students are likely to pick up behaviours, perspectives and attitudes from their everyday experiences in school through the observations and activities they participate in.

This includes opportunities for learning which surround and relate to the formal sessions such as activities they engage in during a workshop or seminar, social events and break-times.

### **2.3 Overview of Art Based Education**

In its general perspective, Art can either be visual or performed. Visual Arts includes sculpture, jewellery, painting, printmaking, fabrics, basketry, leatherworks, pottery and photography while literature, theatre, music, film, drama, dance, and other interactive media are considered as performing Art (Sage Encyclopedia, n.d). According to the Americans for the Arts Online Resource Centre (2009), Art education comprises all the visual and performing arts integrated into a curriculum which is delivered in a standard-based systematic approach by a qualified instructor. Thus, Art disciplines include the incorporation of the visual and performing Arts studied as individual disciplines or combined into a general subject matter such as theatre, creative writing, media arts, history, criticism, aesthetics, fine art and industrial Art.

There are colleges which are purposely established for Art education (Wikipedia, 2014) such as Wimbledon College of Art in UK, Musashino Art University in Tokyo, Japan, Hong Kong Design Institute in Hong Kong and Academy of Design in Australia while in some institutions Art programmes are run alongside other disciplines as faculties and general Institutions of Higher Education (NAST, 2009). Examples are Yale University School of Art in USA, University of Cape Town in South Africa, University of

Westminster Faculty of Media, Arts and Design in UK, and Kwame Nkrumah University of Science and Technology (KNUST) Faculty of Art in Ghana.

The course components of Art programmes vary from one university to the other. In Tehran University of Art in Iran for example, courses offered are Cinema, Theatre, Directing, Animation, Dramatic literature, Architecture, Urban Planning Engineering, Urban and Regional Planning, Interior Architecture, Music, Painting, Graphic Designing, Photography, Sculpture, Industrial Design, Handicraft, Print, Carpet, Fashion Design, Monument Restoration, Philosophy of Art and Art (www.iranicaonline.org/articles/faculties-ii). The Art courses in the College of Art and Science in USA include Art History, Graphic Design, Audio Technology and Studio Art (www.american.edu/cas/). The variation in the courses indicates that Art universities and colleges have the advantage of offering a wide range of Art major options whereas universities that offer general courses are limited to a few Art programmes, depending on the faculty's capacity.

### **2.3.1 2.2.2 Rationale for Art Based Education**

Every University, College or Faculty has its own aims and expectations for their Art programme. The undergraduate programme in Stanford University Art Faculty in USA is designed to help students think critically about the visual arts and visual culture, thus focusing on the meaning of images and media, their historical development, roles in society, and relationships to disciplines such as literature, music, and philosophy (<http://art.stanford.edu/undergraduate/overview/>). Similar to the Stanford's is the University of Maryland Art Department in USA which asserts that its goal is to provide



students with the technical and conceptual tools needed to make innovative contributions to a visual culture in which traditional boundaries between the visual arts, design, film, video, and architecture have become increasingly blurred (<http://www.art.umd.edu/>).

It is evident that the focus of Art programmes in Stanford University UK Art Faculty and University of Maryland Art Department is to groom students to be intellectually liberal as well as skilled in their respective disciplines. However, other Art Faculties such as of Brock University in Canada and Boston University in USA aim at training their students to gain versatile knowledge with emphasis on their creative growth. Brock University (2010) states that the Art programme is designed to focus on the intellectual and creative development of the individual while Boston University offers Art programmes designed to ensure that all students acquire the broad and deep base of skills, competence, and knowledge that is the mark of a liberally educated person and that prepares them for a successful and creative life (<http://www.bu.edu/academics/cas/programs/degree-overview/>). By inference, the purpose for Art programmes differs according to the institutions' focus. However, a common trait remains and that is to train their students to be intellectual artists.

## **2.4 Certification of Art based Education**

Art programmes are run on standard curriculum (Americans for the Arts Online Resource Center, n.d.). Thus course credits are assigned and certificates issued after successful completion of the programme based on the course majors studied, course credit and individual performance. Art programmes usually constitute both practical and theoretical studies (Kerezi, 2012; [www.brocku.ca](http://www.brocku.ca); [www.ntnu.edu/kit](http://www.ntnu.edu/kit); [art.umbc.edu](http://art.umbc.edu); [en.wikipedia.org](http://en.wikipedia.org)).

An example is the University of Texas at Austin in USA which offers a Bachelor of Fine Art (BFA) with 60 hours of studio art courses and 60 hours of general education courses as well as a BA in Studio Art degree with 30 required hours of studio art courses and 90 hours of courses outside the major. Brock University (2010) specifies that its Visual Arts Programme offers a studio-based education which leads to a Three-year Bachelor of Arts (BA), Four-year Bachelor of Art (Honours), Five-year BA Integrated Studies (Honours), Bachelor of Education (BEd), Five-year Bachelor of Art (Honours) and Four-year BSc (Honours) in Computer Science and Visual Arts which is a combined major ([www.brocku.ca/](http://www.brocku.ca/)). This clearly indicates a combination of Art, Education and Science courses for Art students.

Both University of Texas and Brock University offer Education programmes alongside their Art programme; the difference however, is that Brock University offers a certificate in Education (BA/ BEd) at the end of the programme while the University of Texas treats the Education programme as a subset of the other Art programmes. In other words, the Education offered at the Texas University is perhaps to give the Art students the required knowledge and not for certification. This corroborates the possibility that students who are primarily being trained as Artists can also be given knowledge and skills in general education courses and in some cases, having certificates attached to qualify them to teach what they have learnt as professionals. Although aims vary in each course structure and institution, issuing a certificate upon completion of an Art programme to successful graduates just as many other majors as evidence of study makes it necessary to expect them to have gained a good foundation as scholars with the requisite knowledge and skill in their respective fields to face the corporate world.

## **2.5 Art Graduates' Employment**

Carnevale (as cited in Goudreau, 2012) affirms that a bachelor's degree was once a general qualification that could land a beneficiary in a number of different jobs, but this has changed in the last three decades due to technology as the demand for knowledge based workers and technical training has increased. The University of California (n.d) articulates that Art graduates can find jobs as professional artists or in areas like Art and law, Art criticism, Art marketing, Art therapy, Arts administration, Display, Edition printing, Multimedia production, Museum and gallery management, Museum exhibition design, Photography and Teaching. The Faculty of Art, KNUST, also states a wide range of professions, including teaching, interior designer, Art director, Art consultant, Art critic, freelance Artist, sculptor, multimedia designer, author, set design studio design, librarianship, human relation, bookselling and manufacturing, some of which depends on their majors (CASS Handbook, 2008). To McKay (n.d), with an Art degree, a graduates can work as art critic, curator, teacher, art instructor, event planner, art supplies sale representative, Fine Art sales person, art therapist, art gallery owner and a college admissions counsellor. In review, there are careers which require specific Art majors such as textile design, sculptor, Multimedia production, and Art therapy whereas careers such as teaching, art gallery owner, freelance Artist and art supplies sales representative among others, cut across art disciplines.

Graduate unemployment however, has become a global epidemic. Hardi (2012) asserts that unemployment was highest among the literate youth as against the illiterates: rating it 8.5% as against 6% respectively in 2003. Harrison (2013) discloses statistics that show nearly one out of 10 students being unemployed six months after graduation from UK universities,

with 9% of full time degree holders being among the unemployed. The statistics is higher in Ghana, as it is estimated that a growing 44% of graduates are unemployed (Appiah-Kubi, 2011).

Yearly, universities and other tertiary institutions produce chunks of graduates yet there are no corresponding jobs being created to absorb them. The formal sector, according to Boateng and Ofori – Sarpong (2002), is the preferred job destination of graduates, but it only employs less than 40% of all graduates. In spite of the obvious reasons of job unavailability, a study by the American community survey (2010) and Centre on Education and the Workforce (2012) show that graduate unemployment is high among certain majors as compared to others. Goudreau (2012) divulges that Anthropology and Archaeology majors are the first on the unemployment list in America while Art and Humanities majors place second with a 12.9 % unemployment rate; with 11.1% for Fine Arts and 9.4% unemployment for Humanities and Liberal Arts.

Another study by the Georgetown University Centre on Education and Workforce as cited in Berry (2013) shows Fine Art first on the high unemployment list with 12.6% and 12.9% for Film, Video and Photographic Art. Other majors on the list include Information Systems with 11.7% and Philosophy and Religious Studies with 10.8 % unemployment rate respectively. Nursing, on the other hand, has the lowest unemployment rate of 4%, Elementary Education with 4.8%, Finance with 6.6%, and Communication at fourth with 7.4%. It can be seen from the comparison between careers in Art and careers in Education that Art graduates are disadvantaged which further implies that it is perhaps easier to find a job in Art as a teacher than as an Artist. In accordance, Loose (2013) speculates that although a bachelor's degree is a great advantage in job seeking and earning a living, not

all courses provide the same opportunity. In this sense some majors are termed “expressway degrees” while others are “dead end degrees”; Art is evidently among the “dead end” degrees.

Besides inadequate jobs to absorb graduates into their specialized industries, a lot of other reasons may account for the high rate of unemployment among Art graduates. Studies show that graduates aged between 22 and 26 years are the most affected by unemployment because employers are interested in candidates with more experience and skills (Kirkwood, 2013; Loose, 2013). For instance, the changing of print media, according to Berry (2013), could partly be blamed for high unemployment among Film, Video, and Photographic Arts graduates since traditionally, people earn money in print publication and photography; but with technologies such as digital cameras and ICT, "You have to have some talent, and you also have to be really up to speed on the technology, but there are some exciting new possibilities" (Berry, 2013). In addition, Heathfield as cited in Berry (2013) articulates that people do not spend a lot of money or time on fine arts when times are tough economically. When graduates find themselves unemployed, they are forced to settle for any job available. Half of graduates are working jobs that do not require their degree (Center for College Affordability and Productivity as cited in Kingkade, 2013). In other words, unemployed graduates may settle for jobs that are beneath their qualification or end up with jobs outside their specialty. The latter however, is not disheartening as long as the graduates are efficient in their workplaces. In China for instance, unemployed graduates are sent to the countryside to teach (Moore, 2008). A similar situation is noticed in Ghana where graduates, including Art graduates, are placed in schools to teach for a year as

mandatory National Service after graduation. Some graduates opt to teach either in private or public schools when they do not find jobs in their respective academic fields.

A study by Druyeh (2008) discloses that about 60 percent of the graduates from the Integrated Rural Art and Industry department in KNUST, Ghana, are serving as teachers and personnel in various sectors of the Ghana Education Service such as the Senior High Schools, Teacher Training Colleges and Polytechnics, District and Regional Education offices and the Ministry of Education in Ghana. This is no surprise as the call for more teachers on the field to ease the pressure on teacher-pupil ratios in Ghana has become extensive. Perhaps, it is indeed easier to get a teaching job than a job in the Art and craft industry or possibly graduates are very resourceful on the teaching field irrespective of their majors.

## **2.6 Teaching**

Teaching has been defined in diverse ways by different authors usually based on the context in which the term is being used. According to Siaw (2009), some authors describe teaching as an Art because it gives the teacher an opportunity to be creative in shaping the students wholly and also as a science because it centres on a “specified body of knowledge - psychology” (p. 12). Agbenatoe (2011) defines teaching as the presentation of information and experiences in such a way that the learners will be able to understand and apply what has been learned in other situations. Writers have explained teaching with different concepts which all sums up to imparting and receiving knowledge, thus involving a giver and the receiver.

### **2.6.1 Concepts of Teaching**

Agyemang Boafo (2010) defines teaching as the way in which accumulated knowledge, skills, attitudes and values are transmitted or imparted by a teacher to learners. The Alberta Teachers Association (2012) also explains teaching as “a specialized application of knowledge, skills and attributes designed to provide a unique service to meet the educational needs of the individual and of society”. These concepts emphasise teaching from the angle where a task is performed, thus a process of transferring lifelong valuables to a learner. However, according to Jackson (1986; p. 81) as cited in Labaree (2000; p. 228), “There is the same exact equation between teaching and learning as there is between selling and buying”; the teacher being the “seller” in this context has to adopt all marketing strategies to get a “buyer” being the student to purchase what is being sold. Cohen (1988; p. 55) as cited in Labaree (2000) expatiates on teaching as a practice of human improvement in that the practitioners depend on their clients to achieve results. Hence, successful teaching is dependent on successful learning which is in agreement with Jacetot’s (as cited in Akorah, 2011) concept of teaching as “to cause to learn”.

In other words, a teacher’s work is not complete unless the learner understands what has been taught and can put it into practice. The teacher is therefore “not a dispenser of knowledge” as Howee (1970) puts it, but rather a partner in the learning processes. What this means is that teaching is complete when the learner has gained an understanding of the skills being taught and not just when the knowledge has been delivered. Teaching can therefore be described as an interactive process of giving out knowledge and skills to a person with the aim of empowering them by kindling their way of thinking, understanding and acting. For this reason, Durkheim (1973; p. 114) asserts that “the main purpose of

teaching is perhaps for students to understand society and be productive members of it, irrespective of their career choices”. Teaching is seen here as an act of giving and in the principle of giving, there is always the giver.

### **2.6.2 Teaching as a profession**

Teaching is defined by Stiller (2011) as a professional career where an individual is held accountable through a series of tests, assessments and tools to gauge the achievement of students and their learning by going outside their range of knowledge to help students overcome academic, social, and emotional challenges to ensure success. To Kochhar (2004) as cited in Siaw (2009), teaching is not a mechanical process, rather, a complex, demanding and challenging job. The Association for Teacher Education in Europe (Smith, 2006) also elucidates the meaning of teaching by referring to it as “a profession that entails reflective thinking, continuing professional development, sovereignty, responsibility, creativity, research and personal judgments”. According to MacBeath (2012), teaching is a highly professionalized career requiring the highest calibre of professionals available. Teachers have high influence on learners since their experiences and attitudes are brought to the classroom and exposed to the students which can guide them rightly or mislead them.

One key difference between teaching and most professions as revealed by Fenstermacher (1990 as cited in Labaree, 2000) is that other professions use their knowledge to solve problems for their clients, but do not provide the clients with the capacity to solve the problem themselves. A teacher on the other hand, “is in the business of making himself or herself unnecessary” (Labaree, 2000; p.232) by empowering learners (their clients) to be independent problem solvers. However, there is a prevailing perception that teaching is



easy (Labaree, 2000; Macbeath, 2012) with respect to the idea that “The movies suggest that nearly anyone can teach, and earning a teaching credential somehow doesn’t sound as daunting as the sleepless nights of a medical school residency” (Pearson: n.d.; p.3). There have also been several debates about whether or not teaching is even a profession, the argument being based on the traits model or criteria of professionalism that distinguishes the ‘professions’ from other occupations (Runte, 1995) and whether or not teaching qualifies.

Teachers, unlike most professionals, are burdened with excessive expectations from society and are caught between high expectation and low professional esteem (Punch & Tuetteman, 1996 as cited in Macbeth 2012; p.14). A lot is expected from teachers and yet they are not given the due credit. It is however, interesting to know that the perception of teaching being simple is not just an attitude of the general public, but also endemic among prospective teachers (Labaree, 2000). The issue probably, is that the nature of teaching, with regards to Fenstermacher’s comparison of teaching and other professions, puts the teachers in a position that sacrifices their own status and power in order to enhance the capacity and independence of their students (Fenstermacher, 1990 as cited in Labaree, 2000). In spite of all these controversies, parents, students, governments and all stakeholders agree that teaching is an important profession and it is crucial to national development because “it is crucial to transmitting and implanting social values, such as democracy, equality, tolerance cultural understanding, and respect for each person’s fundamental freedoms” (MacBeath, 2012); hence the need to ensure teacher quality.

## **2.7 Roles of a teacher**

Lifelong UK (2013) articulates two distinct types of teaching roles: basically, full teaching role and associate teaching role. What distinguishes full-time teacher from the associate teacher is the responsibility and the work that goes into each of the roles. The associate teacher's role is said to comprise significantly less duties than the full teaching role which demands taking responsibility of the entire teaching cycle regardless of it being a full-time, part-time, fractional, fixed term, temporary or agency basis. The Lifelong UK (2013) affirms that unlike the associate teaching role, the full teaching role requires demonstration of an extensive range of knowledge, understanding and the application of curriculum development, curriculum innovation or curriculum delivery strategies but the quality of both teaching roles is expected to be equally high. Associate teachers may include instructor, trainer, technician and other people involved in teaching who may not develop their own materials but teach from prepared packs and work alongside a full teacher to ensure effective teaching.

The LLUK (2008) indicates the roles undertaken by all teachers in relation to the teaching cycle which follows this pattern:

- Initial assessment
- Preparation and planning
- Delivery
- Assessment
- Evaluation
- Revision based on evaluation

The teacher's role is dynamic due to the evolving nature of the educational system. The teacher serves several roles including classroom managing, counselor, mentor, instructor and a collaborator (Devlin, 2012). The role of the graduate teacher in this study focuses on the major and common duties and responsibilities required of all teachers across the various levels of education. The focus is mainly on the role of putting measures in place to ensure effective teaching and learning as being efficient in the teaching profession is largely dependent on how well the teacher performs his or her role throughout the endless cycle in the teaching career.

## **2.8 Characteristics of an effective teacher**

There is a common responsibility or role for all teachers but what distinguishes good teachers from the others includes both professional and personal characteristics. Good teachers, as affirmed by Ilancaster (2013), demonstrate confidence, have life experience which they incorporate in their teaching, they understand each student's motivation, they are transparent, eager to learn and engage in self-development, they model risk taking, are focused and go beyond traditional methods to ensure effective learning. Other characteristics include good teachers being knowledgeable, always prepared for lessons, ready to listen to students, fair to all students, have good sense of humour and are passionate about teaching (Thompson, 2007). Orlando (2013) also adds that great teachers are warm, accessible, enthusiastic and caring, they respect their students, create a sense of community and belonging in the classroom, set high standards, are passionate about learning, skilled leaders, flexible, maintain professionalism and collaborate with colleagues.

The Center for Teaching Excellence (n.d. ) states that the best teachers have the desire to educate young people and act as positive role models, they are able to work with students from diverse backgrounds and abilities, they are interested in helping people learn, they are enthusiastic about what they teach, have strong interpersonal and organizational skills, have the ability to work unsupervised, they are creative, energetic and patient, and skilled in digital learning tools and technologies. Furthermore, such teachers are described as approachable, helpful, knowledgeable and intellectually challenging, they make good presentation of materials, set high standards, encourage self-initiated learning are some of the important traits that characterize teachers with high ratings. Like doctors, lawyers, accountants, and architects, teachers have to master their discipline to be effective in their profession (Labaree, 2000).

Research conducted on teachers, students and administrators for views on the abilities effective teachers possess (Weimer, 2013) revealed cultivating thinking skills, stimulating interest in the subject, and motivating students to learn are the three most important traits. An effective teacher therefore needs to be knowledgeable and skilled in what he or she teaches and students' learning needs and must constantly find innovative ways to improve on the practices hence an endless learning cycle for a teacher to be effective.

## **2.9 Effective teaching and learning**

Effective teaching, according to Barry (2010), is based on what the teacher knows and does in daily professional practice, which entails in-depth understanding of subject matter, learning theory and student differences, planning, classroom instructional strategies,

personal relationship with each student, assessment of student understanding and proficiency with learning outcomes and also, the teacher's ability to reflect, collaborate with colleagues and continue ongoing professional development. Effective teachers facilitate effective teaching which results in effective learning. Effective teaching and learning take place when a variety of teaching strategies are provided in the classroom and when the emphasis is on gaining understanding rather than just getting the answers right (eTLNetworks).

The Department of Education, Training and Employment, Queensland (n.d.) has also stated that effective teaching involves:

- Understanding how students learn and responding directly to their learning needs and applying in planning the curriculum intent, and sequencing teaching and learning.
- Monitoring and reviewing teaching practices in order to identify and address the individual learning needs of students in the class.
- Setting high expectations for each student's learning and achievement using a range of teaching strategies and methods.
- Challenging all students to be active thinkers by using a range of questioning techniques to engage students in inquiry
- Monitoring student progress and providing ongoing feedback to support their learning and improvement.
- Setting high expectations for your own (the teacher) practice through self-reflection, deep knowledge of curriculum content and teaching practices, professional learning, peer collaboration and coaching.

Adams and Pierce (n.d) also articulate the key characteristics of effective teaching as knowledge of basic principles and procedures (pedagogical theory), planning and preparation, teaching experience (practice), self-reflection and modification of techniques and flexibility. Thus, effective teachers:

- Adjust their lessons based upon the needs and abilities of their students
- Keep abreast of developments in their field or discipline and incorporate these ideas into their lessons
- Organize the material in such a way as to best facilitate learning
- Use effective communication skills
- Formulate specific goals and objectives and then select the best methods for meeting those objectives
- Share the course objectives with the students to clarify expectations for the students and open communication
- Work to build rapport with their students
- Establish a productive learning atmosphere
- Use effective communication skills

These theories put forward by the Department of Education, Training and Employment, Queensland (n.d.) and Adams and Pierce (n.d.) are mainly pupil or student centered. Another study by Smittle (2003) also reveals six principles for effective teaching as:

- Commitment to teaching students
- Demonstrate good command of the subject matter and the ability to teach diverse student population

- Address non-cognitive issues that affect learning
- Provide open and responsive learning environments
- Communicate high
- Engage in ongoing evaluation and professional development

Common traits that can be deduced from the description of effective teachers put forward by the authors cited in the review are seen to revolve around the teacher gaining knowledge and skill, studying the learners' learning needs and styles, imparting the knowledge and skill to the learners and ensuring effective learning through evaluation and then, the teacher going back to gain more knowledge and skills to continue the teaching cycle. It is therefore right to say that effective teaching is largely dependent on the teacher and how much he or she knows, does and is willing to do to get students to the stage where they do not need the teacher anymore. Effective teaching is therefore not just giving knowledge and skills to learners but also engaging and motivating them to understand and be empowered to be independent and resourceful.

## **2.10 Students' Learning Needs**

Variation in human nature implies that each individual has his or her own abilities as well as needs. A typical classroom comprises students from diverse backgrounds, so are their learning needs. However, "the typical curriculum - usually centered on printed materials - is designed for a homogeneous group of students and is not able to meet different learner needs" (Ralabate, 2011). According to Astin (1984) as cited in Smittle (2003; p4), "successful developmental education programs for under prepared students must deal with

affective as well as cognitive needs”. That means students being developed wholly rather than solely dealing with their cognitive skill deficits, which can be achieved through motivation. Motivation, however, is a challenge since students cannot be motivated unless they willingly join the effort. Although some teachers do not agree that it is their responsibility to motivate students, Smittle (2003) affirms that it is a rewarding challenge for teachers to identify how and when students lose motivation and help them to regain and sustain their motivation to ensure effective learning.

Consequently, it is the duty of the teacher to adopt diverse means that will address all their students’ needs. Wynne (n.d) articulates that the importance of identifying and analyzing students’ learning needs is essential as it helps to identify the students’ need levels in terms of their knowledge, skills and competencies. This requires the teacher to perform a learning need analysis of the students prior to the start of the course to know the appropriate teaching methodologies to employ. Wynne discourses that the benefits of learning needs analysis are:

- Identify the skills and knowledge the learners already have
- Highlight skills/knowledge/competencies that need developing
- Identify clearly what students wish to achieve
- Outline and define expectations and goals
- Establish need and demand for the course you have in mind
- Determine what can realistically be achieved given the available resources
- Identify any obstacles or difficulties which may arise
- Increase the sense of ownership and involvement of the students
- Provide information about your student group - know your audience



- Achieve a correct fit between the provider and student, i.e., the course matches student needs and expectations
- Identify the content that best suits students' needs
- Determine what is the most appropriate delivery format - class based, online or a mix of these and other formats
- Determine what skill set and knowledge base is required of the tutor
- Develop a budget and cost benefit analysis
- Establish when is the most suitable time to deliver the programme and over what time frame
- Ascertain the most suitable evaluation mechanisms
- Outline what results can be expected and if or how these can be measured.

## **2.11 Determining Effective Teaching**

According to Santrock (2004) as cited in Agbenatoe (2011), the two ingredients required in effective teaching are professional knowledge and skills, commitment and motivation. However, determining effective teaching is not as simple as it may seem, partly because it does not solely depend on the teacher's effort. In other words, the effectiveness of teaching depends on the effectiveness of learning. Little, Geo and Bell (2008) have defined teacher effectiveness as a teacher's ability to improve students' learning as measured by students' gain on standardized achievement test. The authors opine that the way teaching effectiveness is defined influences how it is conceived and measured. Teacher effectiveness in this study is defined by what the teacher knows and does to enhance effective student learning.

Stuhlman, Hamre, Downer and Pianta (n.d) have indicated three broad domains of teaching practice that are linked to positive student outcomes. These are social/emotional support (classroom climate, teacher sensitivity and regard for student perspective), organization/management support (behavior management, productivity and strategies for engaging students) and instructional support (strategies that foster content knowledge, strategies that foster analysis and reasoning skills, strategies that foster knowledge of procedures and skills, quality of feedback and instructional dialogue). These principles are student centred in that they require the teacher to implement all measures possible to motivate, engage, supervise and train the students to achieve results. Hence determining an effective teacher cannot be done using just one method.

Darling-Hammond (2012) avers that in order to get valid evidence of teacher effectiveness, multiple measures should be used. Darling-Hammond elucidates that the measures include evaluation of practice based on multiple classroom observations, evidence of learning by the teacher's students on a range of valid assessments that appropriately evaluate the curriculum the teacher teaches, evaluation of teachers' contributions to colleagues and to the school as a whole. In this respect, Little, Geo and Bell (2008) imply that the best measure for teacher effectiveness should include seeking out or creating appropriate measures to capture important information about teachers' contribution that go beyond student achievement score gains.

Teaching, as stated by the Measures of Effective Teaching (MET) Project (2013), is a complex interaction among students, teachers, and content that cannot be measured by one tool. The MET Project, through theoretical and empirical study, asserts that it is possible

to identify great teaching by combining three types of measures: classroom observations, student surveys, and student achievement gains.

### **2.11.1 Classroom observation**

Classroom observation is the most common way institutions use to determine effective teaching. Classroom observation provides an opportunity to see real-life teachers in real-life teaching situations (Bilash, 2009). Classroom observation is purpose driven. According to <http://learning.wales.gov.uk/>, the purpose of classroom observation may include: to observe the learning as part of continuing professional development and to monitor the quality of teaching. There is therefore the need to ensure precision. Classroom observation should be accurate as well as reliable in the sense that it should reflect the standards and should not be excessively derived by the idiosyncrasy of a particular rater or lesson. This means there is a possibility for bias if only one lesson or one observer is employed, as a lesson observation might not reflect the true day to day teaching in action (MET Project, 2013). This raises the question of which is better: prior notice or elements of surprise? The MET Project discloses that the element of surprise may not be necessary, since such policies increase anxiety and reinforce the impression that teacher evaluation is primarily about teacher accountability and not the twin goal of improvement through feedback. Ideally, administrators from a teacher's own school, administrators from other schools, and peers, including those with and without certification in the teacher's grade range can be used as observers to validate the results.

### **2.11.2 Students' Perception Survey**

In assessing teaching effectiveness, students' perception is very important since they are the beneficiary and first hand witness to what actually happens in the everyday classroom. Students recognize an effective classroom when they experience one (MET Project, 2013) therefore asking students about specific teachers and specific classrooms is a vital way of determining effective teaching. Student survey results are predictive of student achievement gains and it covers the gaps missed during observations thereby providing more consistent results. The MET Project (2013) again affirms that a high-quality observation system entails at most a handful of classroom visits, while student surveys aggregate the impressions of many individuals who have spent many hours with a teacher. When asked the right questions, in the right ways - students can be an important source of information on the quality of teaching and the learning environment in individual classrooms" (p. 4). Schulz, Sud and Crowe (2014) opine that well-designed student surveys ask students about instructional practices that relate with enhanced student learning, such as student-teacher relationships, teacher management of the classroom, rigour of lessons and student engagement, and teacher responsiveness to student needs.

### **2.11.3 Student achievement gains**

For decades researchers recognized the impact of effective teaching on students' learning (Taylor, Tyler & Wooten, 2010). Marzano (n.d) reveals that students in classes of effective teachers gain much more than expected. The Center for Public Education (2005) asserts that simply, change in students' test scores from one year to another can help determine the effectiveness of the teacher. In other words, identifying progress in students'

performance is an evidence of effective teaching. This is however, challenged by factors such as the issue of the ability level of students and the range of individual differences among students in ability levels (Wright, Sandra & Sanders, 1997). It is in relation to this that the importance of knowing and addressing each student's learning needs is paramount in achievement of effective learning as no student should be sidelined.

## **2.12 Teacher training and certification**

Teacher quality has been an important issue for societies for centuries. If it is indeed good teaching that makes a good society, then ensuring that the facilitators of teaching are well trained is equally vital in every society. In Africa, Asia, America among others, there is an established network of public and private teacher training institutions to prepare prospective teachers. Teacher training or education is a curriculum designed to equip prospective teachers with the knowledge, attitudes, behaviour and skills they need to perform their tasks effectively in the classroom, school and wider community (Wikipedia, 2014). In a general perspective, teacher training is characterized under an Initial teacher training / education stage which has to do with a pre-service course before entering the classroom as a fully responsible teacher; an induction stage which is the process of providing training and support during the first few years of teaching or the first year in a particular school and a teacher development or continuing professional development which is an in-service process for practicing teachers (Anamuah-Mensah, 2011).

Although teacher training is an accepted institution worldwide, the nature of the institutions vary within and across countries in terms of the quality of faculties and the

specific nature of the programmes even in a single continent (International Reading Association, 2008). In Australia, teacher education programmes are offered in colleges and universities. The colleges offer a three-year course leading to a diploma in teaching at the early childhood or primary levels which can be upgraded after acquiring some experience, to a one year B.Ed. degree. The universities' commonest pattern is a first degree in the science, social science or humanities area, followed by a one-year education course which leads to a Diploma of Education and Secondary Teaching. Some universities also offer a four-year BEd. programme. There is also the option of BA or Diploma in Education (DipEd) which can also be used for early childhood and primary school teaching (UNESCO, 1990).

Pre-service teacher training in Ghana is mainly provided by teacher training colleges (now designated 'Colleges of Education'). This initial teacher training follows an IN-IN-OUT structure where the first two years of pre-service training is based on the acquisition of subject content knowledge and pedagogic content knowledge as a foundation for training in classroom practice to ensure that prior to the "out" stage, trainees have acquired a vast range of specific knowledge and skills needed for effective teaching (Akyeampong, 2003). The underlying principle of teacher education in Ghana, according MOE (1993) as cited in Anamuah-Mensah (2011), 'is to provide teachers with better knowledge, skills and incentives to use for the benefit of children, through the creation of an accessible, integrated teacher education and training system which provides a structure for continuous professional development throughout their teaching careers.

Through all the stages in teacher training, certificates are awarded to successful trainees. At the post-secondary level, a 3-year post-secondary certificate "A" is awarded and it can

be used to teach in primary and junior high schools. A 2-year Diploma is awarded at the higher education (non-graduate level) for teaching in post-secondary teacher training or senior high school; a 2- or 3-year BEd degree in higher education (undergraduate level) is for teaching in post-secondary teacher training or senior high school, while a 1-year postgraduate certificate is awarded to degree holders in higher education (postgraduate level) to enable them to teach in senior high schools and post-secondary teacher training. To teach in the university however, a PhD is required (Armstrong, 2008). Nevertheless, some universities accept a minimum of postgraduate certificate (MA, MSc, MBA, MFA or MPhil) to teach in some undergraduate programmes.

### **2.13 Professional and non-professional graduate teachers**

According to Akyeampong (2003), there are two types of full-time graduate teachers in Ghana: the trained graduate teachers and the untrained graduate teachers. Trained graduate teachers have at least a diploma qualification in general education and are classified as “professional graduate teacher” by the Ghana Education Service while untrained graduate teachers are graduates who have no professional teacher training and certification; they are classified as “non-professional graduate teachers” in Ghana.

Graduate teachers are usually assigned to teach in senior high schools and teachers’ training college. To be a lecturer at the university does not require a professional teacher training certificate (Armstrong, 2008) hence ‘professional’ and ‘non-profession’ teacher is not applicable to university lecturers. Teacher training and certification are all measures put

in place to ensure not just teacher quality but also to ensure that teachers are well equipped for the huge role they play in the lives of their students and the society at large.

#### **2.14 Summary of Discussion**

Curriculum has outgrown its original definition of it being just sequence of courses or subjects which are planned and written down. Recent studies show that curriculum includes the planned and written sequence of courses or subjects, plus all learning experiences which students' acquire through their everyday school experiences. These learning experiences can be picked up from the teacher-student interaction, student- student interaction and from all encounters and activities within the school environment. Such learning experiences are classified as the hidden curriculum, as they are unplanned yet unavoidable.

Art University graduates are mainly trained to be artists, hence the Art curriculum is designed to focus on theoretical and practical courses that will aid the Art programmes to produce graduates for careers in Art. Careers includes production of artifacts, consultancy, sales of artifacts among others and like most courses, teaching is considered as one of the careers for art graduates. There are some art institutions that offer courses intended to specifically train its students to be Art teachers while others focus specifically on the Art courses but still suggest that its graduates can be teachers or instructors. This implies that although there are no teacher training programmes on such institutions' timetable, students are still expected to be able to teach after acquiring the knowledge and skills in art. If so, then it can therefore be inferred here that there are perhaps some learning experiences,



although unplanned and unwritten such as observing their teachers deliver lessons, which are expected to aid such prospective teachers to be able to teach.

Teaching profession is deemed as an easy profession which can be engaged by anyone as far as the person has knowledge in the topic or subject. However, researchers and experts challenge such statements with empirical and theoretical studies implying that not everyone can be an efficient teacher. In other words, although anyone can attempt teaching, not everyone can achieve effective teaching. Effective teaching is said to be achieved when the learner is able to understand, absorb and apply what has been taught. Hence effective teaching is based on effective learning.

What makes an effective teacher is what he or she knows and does to ensure effective learning. The role of the teacher is enormous and it includes managing teaching and students. Effective teachers are those that go extra miles to ensure the success of their students. Effective teachers are knowledgeable, understand students' motivation and learning needs, are skilled in teaching techniques, passionate about teaching and learning, engage in continuous learning to improve their efficiency, they are skilled leaders, flexible, maintain professionalism, collaborate with colleagues and have life experience which they incorporate in their teaching.

To determine an effective teacher requires the use of multiple measures to ensure a fair assessment. Effective teachers can be identified based on how they perform their task which can be known through observation (classroom observation), through the testimonies of those who are experiencing the teaching (students perception of the teacher's work) and the performance of the students (students' achievement).

Based on this review, it can be said that graduates who are untrained as teachers may be knowledgeable but it cannot be concluded that they are efficient as teachers until they have been assessed using the appropriate measures and proven so. Having efficient teachers in the classroom is essential for the production of successful graduates and subsequently the growth of any nation.

## **CHAPTER THREE**

### **3.0 METHODOLOGY**

#### **3.1 Overview**

This chapter deals with the research methods employed to facilitate in achievement of the objectives of the study which sort to identify why Art graduates become teachers and how successful they are at performing their task. The methodology covers the research design, research approach, sampling and sampling techniques, the primary and secondary data, data collection instrument, validation and administration of instrument and data analysis plan.

#### **3.2 Research Approach**

To achieve an in-depth study of graduate artists in Ghanaian classrooms, the study adopted the mixed method research approach and instruments. Mixed method research involves the use of both qualitative and quantitative research methods to conduct the study. According to Hesse-Biber (2010), the use of mixed methods (triangulation) ultimately strengthens and enriches a study's conclusions, making them more acceptable. The quantitative research method aims at explaining phenomena by collecting numerical data that are analysed using mathematically based methods (Aliaga and Gunderson, 2000 as cited in SAGE, 2010) and seeks answers to questions such as "how many" and "how much". Hesse-Biber (2010) states that quantitative data can assist qualitative researchers by providing a broader context within which to place their qualitative data; as well as providing ways to identify representative cases for in-depth researching through survey samples.

Qualitative research, on the other hand, primarily seeks meaning rather than measuring and therefore explores questions such as what, why and how, rather than how many or how much (Keegan, 2009). Moreover, qualitative research attempts to understand the world of the persons being researched as it is person-centred in the sense that the researcher studies the subjects and attempts to interpret their experiences according to the meaning the people bring to them (Heergaard & Ulhoi, 2007). In this study, the mixed method approach facilitated collection of a database and a detailed knowledge and understanding of the state of graduate artists of the Industrial Art Department of the Faculty of Art in Kwame Nkrumah University of Science and Technology (KNUST). The study collected data that indicate how many of them are in the teaching profession, why they joined the profession, how they go about their duties and how successful they are in achieving effective teaching and learning.

### **3.3 Research Design**

The research design is the methodical approach adopted to enable a scientific study into a phenomenon. De Vaus (2001) and Trochim (2006) refer to research design as the overall strategy that is chosen to integrate the different components of the study in a coherent and logical way to ensure an effective study of the research problem. The research design used for this study was mainly descriptive research.

### **3.3.1 Descriptive research**

Descriptive research is employed to obtain information concerning the current status of the phenomena being studied in order to describe "what exists" with respect to the variables or conditions in a situation (Keys, 1997). Descriptive research can either be qualitative or quantitative depending on the approach (Simon, 2012; [www.aect.org](http://www.aect.org), n.d). Qualitative descriptive research deals with observation and in-depth study of the subject and describing mainly by words whereas quantitative description research involves mainly the use of figures and statistical description of the subjects under study. In this respect, the qualitative and quantitative descriptive research design (case study and Descriptive survey research design) were employed to obtain information concerning the status of Art graduates of KNUST who are teaching with no professional teacher certificate and to describe how many end up as teachers, reasons why they become teachers, how they go about their duties and how successful they are as teachers.

### **3.3.2 Qualitative Research Design**

Case study is a qualitative descriptive design used to achieve a detailed investigation of a single person, a group of people, an event or community. Case study concentrates on a smaller group of people to enable a thorough and effective study of the problem. It enables the flexibility to do a thorough study of the state or conditions of how people, events or situation are, why they are as they are, what factors are causing or affecting them, and the extent they have reached. Case study research design is also useful for testing whether scientific theories and models actually work in the real world (Shuttleworth, 2008).

Since Non-professional teachers in Ghana who are Art graduates are within a larger scope to be studied qualitatively in terms of their numbers and year of graduation, course majors studied and their current location, adopting case study research design was necessary to enable this study focus on a smaller group and achieve the desired results. Case study facilitated the flexibility of limiting the study to the graduates of Industrial Art Department of KNUST who taught or are still teaching with no professional teacher training within a period of ten years. Referred to as Industrial Art Graduate Teachers (IAGT), their background and educational information and opinions were sought in addition to being observed in order to document the activities they engaged their students in during lessons to help obtain quality data that expresses why the Art graduates become teachers, how they perform their teaching duties, and what their strengths and challenges are in performing their tasks.

### **3.3.3 Quantitative Research Design**

Descriptive survey research design is a quantitative descriptive research design which uses questions through statistical survey to source information about opinions and attitudes of people. Penwarden (2014) asserts that survey research gives a better definition of opinions, attitudes or behaviours held by a group of people on a given subject as it is structured in design to attain information that can be statistically inferred on a population. The descriptive survey research design was useful to identify and quantify the number of graduates of the Industrial Art department at KNUST who became teachers between 2003 and 2012 and to source information from their students and colleagues to assist in determining whether or not the IAGT are successful in performing their duties.

### **3.4 Population for the study**

Population is the entirety of all the individuals who share the characteristics that define the study. The target population of this study was all graduates and final year students of the Industrial Art Department in KNUST. The final year students of the department were included in this study to assist in determining students' perceptions of prospective careers that the Industrial Art Programme offers and in identifying common traits associated with factors that influence the graduates to take up positions as teachers.

Target Population, according to Asiedu (2009), includes all the members of the study as defined by the objectives of the study. The accessible population however, was the 2012-2013 final year Industrial Art Department students and all graduates of the Department who graduated between 2003 and 2012 and are working or had worked as teachers.

The accessible population was 1,224 graduates and 117 final year students. Considering the number of the population, the cost involved and the one academic calendar allocated for the study, sampling was required.

### **3.5 Sampling Techniques**

Sampling is selecting significant members of the population of the study to represent the entire population. According to Yount (2006), the sample should be a 'miniature model' of the population to make it applicable to the entire population. The best sampling method should be the method that most effectively meets the objectives of the study. To achieve quality data, the snowball, purposive, and convenience sampling techniques were used:

## **1. Snowball Sampling**

Snowball sampling is employed when the target population is difficult to locate. Snowball sampling makes use of the few study subjects accessible to the researcher and through them, connects with a few more and then those located also lead the researcher to those they know and so on; thus creating a chain or network to reach as many of the population as possible. The advantage of the snowball sampling is its chain process which allows the researcher to contact difficult targets that may not be reachable using the other sampling techniques. However, snowball sampling can be biased in terms of true distribution of the population and of the sample (Explorable.com, 2009) since it gives people with more social connections a higher chance of being selected (Berg 2006). Nevertheless, snowball sampling was used because it was found to be the most effective way of locating the graduates considering that the graduates referred to in this study are scattered across the country and abroad, and are difficult to find.

The snowball technique was found to be the most efficient sampling technique that could help to locate many of the graduates within the time allocated for the study because it is cost effective. With the aid of a list of graduates acquired from the Industrial Art Department, a few of the graduates were readily located and then through them, many more were identified and contacted in person, through phone calls, the social media and emails.



## **2. Purposive Sampling**

Within a population of diversity, purposive sampling enables the researcher to focus on particular characteristics of a population that are of interest and will assist in answering the research questions (Lund Research Ltd, 2012). In the purposive sample, the samples are those who would be most prone to contribute appropriate data in terms of relevance and depth in this case, the graduates of the IAD who could be in different career fields. The purposive sampling technique was used to select graduates of the department who are teachers or became teachers, both temporary and permanently after graduating from the university from 2003 to 2012.

## **3. Convenience Sampling**

Convenience sampling was used specifically to select the Industrial Art Graduate Teachers still in the teaching service in Ashanti Region so their lessons could be observed since the exact number and location of these graduates teaching was unknown because no database exists on them. Battaglia (2008) elucidates that convenience sampling selects study subjects based on how "convenient" they are as sources of data for the researcher. Convenience sampling does not usually produce a fair representation of data and results are difficult to replicate. However, convenience sampling can provide qualitative information and accurate correlation (Verint.com, 2010).

### **3.6 Sampling Frame**

According to Yount (2006), the size of the population determines the minimum percentage of the population. For example, as shown in Table 3.1, a population size of a hundred (100)

requires a hundred percent (100%) sample where as a population of 10000 requires at least one percent (1%). This implies that the bigger the population size, the smaller the sample size.

**Table 3. 1 Yount's Sampling Guide**

<i>Size of the Population</i>	<i>Sampling percentage (%)</i>
0 – 100	100%
101 – 1,000	10%
1,001 – 5,000	5%
5,001 – 10,000	3%
10,000+	1%

In this study, 400 of the 1,224 graduates, which is equivalent to about 32.7% of the total population of the IAD graduates were located through the snowball sampling, The respondents were sorted out according to their career disparities:

- i. Graduates who are in the Education sector
- ii. Graduates in the Art Industry
- iii. Graduates in other sectors

The purposive sampling technique was then used to select graduates who served or are serving as teachers for further study. This resulted in a sample of two hundred and sixteen (216) graduate respondents who were teaching or had taught after graduation from the IAD between 2003 and 2012. This number represented 54% of the accessible population. From

the 216, the convenience sampling technique was used to select 20 of the Non-Professional Graduate Teachers who were still teaching in Ashanti Region for the observation of lessons.

### **3.7 Primary and secondary data**

Primary Source: Primary data were sourced from Final year Industrial Art students, alumni serving as teachers and their students/pupil.

Secondary Source: Secondary data comprised of record of the industrial Art curriculum and assessment records of the pupils or students taught by the teachers and other relevant official and unofficial documents.

### **3.8 Data collection instruments**

In order to address the research questions qualitatively, observation, interviews, questionnaire, and document analysis were employed.

#### **1. Questionnaire**

Questionnaire is a list of written questions that is used to source information from study subjects. Keys (1997) defines questionnaire as “most frequently a very concise, pre-planned set of questions designed to yield specific information to meet a particular need for research information about a pertinent topic”. Keys elaborates that questionnaires are economical and allows the researcher to ask all respondents the same set of questions which aids in easy analysis of data, However, respondents’ motivation is difficult to assess and

unless the questionnaire returned are randomly sampled, those obtained may represent biased samples. In this study, two sets of open-ended questionnaires were prepared. One set of questionnaire (see Appendix 1) sought to know the final year students' perception of teaching as a prospective career and the other set of questionnaire sought information from graduates of the IAD who are teaching or were once teachers to inquire about their experiences as non professional teachers.

Of the 117 first set of open-ended questionnaire that were given to the final year students of IAD, 92 (representing 78.6%) were retrieved. Before the second set of open-ended questionnaire was distributed, a close-ended questionnaire was sent to the graduates located through snowball sampling, to purposefully sort out the teachers. The questionnaire was sent to specifically determine their current career status, whether they have served as teachers after the Industrial Art Programme and if yes, the qualification they used to teach. Two hundred and eight four (284) responded out of which seventy one (71) were either teachers or had been teachers after graduating. Seventy-one (71) of the second set of questionnaire (see Appendix 2) was sent to this category of respondents and nineteen (19) were retrieved. Another set of fifty (50) questionnaire was sent to a different group of the graduates who were later identified and twenty seven (27) were retrieved. Looking at the response, it was evident that there was the need for a more effective tool to collect the data required. Interviews were therefore resorted to.

## ***2. Interviews***

Structured and unstructured Face-to-face and telephone interviews were conducted to determine the career status of more graduates from the IAD and to source data from the

graduates who became teachers who preferred to talk rather than write (see Appendix 3). Although interviews were more expensive and time consuming, they are excellent for in-depth testing of research hypotheses and insights into the mind of the respondent for clarification can be requested for leads to qualitative data (microlinks.com, n.d.). One hundred and eighteen (118) telephone and face-to-face interviews were conducted. Also, some students and colleagues of the graduates who were teaching were interviewed to help validate the data collected from the teachers (see Appendix 4). This was done through individual interviews and in some cases, focus group.

### ***3. Observation***

People tend to perform better when they know they are being observed, however observations allow the researcher to see what people do rather than relying on what they claim to do (Kawulich, 2005). In the quest to determine the state of the IAGTs in terms of their effectiveness as teachers, an observation guide (see Appendix 5) was personally developed and modeled after the ‘Key factors that determine an effective teacher’ determined by MET Project (2014); Little et al (2009); Darling-Hammond, 2012). Based on the criteria of effective teaching defined by the MET Project (2014), two lessons per teacher were observed. Teaching activities observed were scored using a 4-point marking scheme: Not observed = 0, Poorly Practiced = 1, Average = 2, Well executed = 3.

With the aid of this observation guide, twenty (20) lessons taught by IAGTs were personally observed by the researcher to aid in validating responses deduced from the questionnaire and interviews and also, for obtaining firsthand information about how the teachers go about their teaching tasks. Twenty (20) Non-Professional IAGTs in Primary, Junior High and Senior High Schools were selectively observed and the quality of their

teaching scored, based on the activities that comprise teaching and learning in the classroom setting, with emphasis on preparing and planning lessons, lesson delivery, classroom and students learning management, knowledge in subject content and students' assessment. Lessons observed were subjects that were being taught for the first time to the students.

#### **4. Document analysis**

Data were collected from official documents of the Industrial Arts Department to know the components of the curriculum. Data were also collected from the pupils/ students classroom assignments that were conducted on the day of observation of the IAGT to aid in determining their students' achievement gains. As Robson (2002) states, the advantage of document analysis is that documents are unobtrusive and can be used without imposing on participants; they can be checked and re-checked for reliability. The challenge however, is that the documents may not have been written for the same purposes as the research and can therefore affect conclusions.

#### **3.9 Validation of data collection instrument**

All research instruments have their pros and cons, but the ones they are properly managed can yield the desired results from the study. Validity, according to Taylor (n.d.; p.42), is the ability of the questions (interview or questionnaire) to capture the underlying concepts being evaluated". This ensures the questions cover the objectives of the study as well as what can be said about the participant. Taylor affirms four validation keys:

- *Face Validation*: ensuring the questions makes sense

- *Content Validation*: ensuring questions, express the key concept they were designed to reflect
- *Criterion Validity*: Ensuring the responses to the questions agree with an objective criterion or gold standard for the underlying concepts
- *Construct Validity*: ensuring the hypotheses concerning the relationships between the underlying concepts borne out by the responses?

To achieve quality of the instrument, all the designed questionnaire were pre-tested on some of the final year students and graduates of the IAD before the actual study was conducted. For this, 30 copies of the questionnaire were given to the final year students through random sampling and 20 copies the questionnaire given to selected graduates through convenience sampling. This was done to ensure clarity of the questions and whether they sourced the answers intended to address the objectives of this study. The same questions were used to pilot face-to-face and telephone interviews of the graduates to validate consistency.

### **3.10 Ethical considerations**

Respect for the human rights of respondents was ultimate in this study as the researcher ensured that the privileges given were not abused in the process of sourcing the needed data. Due to the sensitivity of this study, especially career-wise, the participants were assured of their anonymity as well as the data collected from them; participants were assured of confidentiality of their contribution as the data were to be used for academic purposes only. The researcher humbly sought the full consent of all the participants before the data were collected. The purpose of the study was also clearly explained to all

participants. Neither the students nor teachers sampled in the schools were inconvenienced by allowing a third party to interview, observe the lessons or collect the administered questionnaire. Permission was sought verbally and through letters and appropriate dates scheduled with the teachers earmarked for observation ahead of time.

### **3.11 Data Analysis Plan**

Data obtained from this study was analysed qualitatively and quantitatively. Field notes from the questionnaire responses, interviews, document analysis, and classroom observation were transcribed and processed into narrative form with numeric descriptions, and also categorised under themes. Instances were also quoted as stated by some respondents and interpreted accordingly. Descriptive analysis was used to create summaries of the themes which were represented in the form of graphical analysis, tabulation and percentages where appropriate.



## **CHAPTER FOUR**

### **4.0 PRESENTATION AND DISCUSSION OF FINDINGS**

#### **4.1 Overview**

The analysis of findings from the study is, presented in this chapter, based on data gathered from document analysis and through interviews, administration of questionnaires and observations. The study mainly sought for the background information of the Industrial Art Graduates, factors influencing the Industrial Art Graduates to serve in the teaching profession, their experiences in performing their task effectively and how successful they are at performing their role as effective teachers.

#### **4.2 Rationale for the Industrial Art Programme**

The Industrial Art sections of Textiles, Metal Products Design and Ceramics, were created separately in 1964 as individual departments of the then College of Art in KNUST. They were united as one department in 1968 and named the Industrial Art Department. The Industrial Art Department (IAD) was originally set up to train artists to teach in Senior High Schools and Teacher Training Colleges but was later merged with science and technology courses to equip the artist for the rising industries (<http://industrialart.knust.edu.gh/> 2013).

The specific aims of the current Industrial Art Programme are: producing graduates with requisite knowledge and skills to play key roles in society as artists and designers or apply same in industrial concerns engaged in the textile production, ceramics and metal products.

Also, the programme aims to produce graduates with the requisite knowledge and skills to take up positions in manufacturing, commerce, teaching, research and development (<http://industrialart.knust.edu.gh/>, 2013; CASS Handbook, 2007). This implies that although producing graduates who can teach the Art subjects is not the main focus of the department, it is an ‘inevitable essential backup’ of the new focus.

### **4.3 The Industrial Art Course content**

The Department of Industrial Art offers a four-year undergraduate programme which leads to a degree in Bachelor of Art in Industrial Art with Ceramics, Textiles and Metals options (CASS Handbook, 2007). In the first year, all students are put through a foundation course intended to provide them with specific basic skills required for the respective Industrial Art disciplines. After a successful completion of the foundation course, students are required to choose any section of interest where they do specialized studies for the next three years of the programme. In other words, the students begin the specialized study of Industrial Art Ceramics, Metals or Textiles programme in their second year, after going through the one-year foundation course successfully.

#### **4.3.1 The Industrial Art Foundation courses (Year 1)**

##### *Course description*

The Introduction to Textiles, Metal Products Design and Ceramic programme content deals with gaining basic knowledge and skills in the various disciplines such as knowing the elements of textiles and development of weaving techniques, metals in relationship to fabrication techniques and processes and traditional and contemporary ceramics and

methods of production respectively. Introduction to the majors are theoretical and practical aspects of the courses. It is however, not aimed at equipping students to be able to teach. The courses prepare the students and aid them in choosing their preferred majors at the end of the foundation class (CASS Handbook, 2007). The courses offered at the foundation level (Year I) are as listed in Table 4.1.

**Table 4. 1: Industrial Art Foundation Courses**

<b>Semester 1</b>	<b>Semester 2</b>
IAT 151 Introduction to Textiles I	IAT 152 Introduction to Textiles II
IAM 151 Introduction to Metal Product Design I	IAM 152 Introduction to Metal Product Design II
IAC 151 Introduction to Ceramics I	IAC 151 Introduction to Ceramics II
DAD 153 General Drawing I	DAD 154 General Drawing II
DAD 151 Basic Design I	DAD 152 Basic Design II
DAD 157 Computer Application in Design I	DAD 158 Computer Application in Design II
ENGL 157 Communication Skills	ENGL 157 Communication Skills II
DAH 151 Introduction to African Art and Culture	DAH 152 History of European Art (25,000 BC -13th C. AD) Or ATE 152 Art Education

**Source: CASS Handbook (2007); Fieldwork 2013**

The Basic Design course entails the study of the principles and elements of design, idea development, colours and creation of two and three-dimensional designs and figures. General Drawing handles study of figure drawing, drawing composition, shading and organization of visual elements. Computer Application in Design on the other hand deals with soft and hardware and computer graphics application. The Basic Design, General Drawing and Computer Application in Design generally equip students with vital knowledge and skills to as Artist and designers. Communication Skills equips students with the knowledge of English grammar to communicate easily in oral and written media. These include oral presentation, formal speech making, conducting interviews and meetings. It also deals with preparing official documents such as letters, memos, reports, minutes and proposals (CASS Handbook, 2007).

Although not listed in the CASS Handbook, Art Education was found from the fieldwork as a one-semester course offered at the foundation course. Art Education introduces the students to Concepts in Art (Indigenous African Art and Western Art), Concepts of General Education Concepts of Art Education and General Characteristics of Indigenous Art. The Art Education course is aimed at teaching students Concept of Art which involves Nature of Indigenous African Art (Definitions), Nature of Western Art (Definitions); Concept of General Education: Nature of Education (Definitions), Ill-Education, Mis-Education, Non-Education; Concept of Art Education: Education in Art, Education through Art; and General Characteristics of African Art.

African Art and Culture involves: the meaning of African Art and culture; ideal culture and real culture; cultural components; problems in defining Art; African cosmological belief; the use of Art in the manipulation of the universe; the functions, importance and symbolic

significance of visual, body, performance and verbal Art in African culture; Major wood carving areas in Africa; Animism and wood carving; African motifs (CASS Handbook, 2007).

History of European Art (25,000 BC-13<sup>th</sup> C. AD) involves the study of Cave Art during the Paleolithic, Mesolithic and Neolithic periods and Greek Art from the 10<sup>th</sup> – the 2<sup>nd</sup> century BC; Byzantine Art(CASS Handbook, 2007).

#### **4.3.2 The Industrial Art Sectional curriculum (Year 2- 4)**

The Year 2 to 4 programme curriculum comprises Core Subjects, Sectional Courses and VC's (Vice Chancellor's) Initiative Elective course commonly known as the Elective or the VC's Course. The respective courses are reproduced as found in the CASS Handbook (2007) and described below:

##### **1. Core Subjects**

###### ***i. Literature in English (course code: ENGL 263 and ENGL 264)***

Literature in English involves the study of old classic and contemporary literature book in English with focus' on poetry and drama for the first semester, and folktales, short stories and novels for the second semester.

###### ***ii. Research Methodology (course code: ATE 323)***

The meaning, purpose and characteristics of research, Types of research and the tools or instruments for data collection, the guidance of students to identify the most appropriate method to adopt for their own research towards their thesis/project reports. This is a first semester course.

###### ***iii. Thesis / Report writing (course code: ATE 324)***

It delves into the study of report writing and general approach to research and thesis writing which lead to the final thesis or project report writing at the end of the final year. Thesis/ Report writing is studied in the third year second semester.

***iv. Computer Application in Design (course code: DAD 269, 270, 359)***

This course comprises of the exploration in digital technologies, tools and techniques used in image scanning, manipulation and output and familiarizing with aesthetic, technical and ethnical issues relevant to working in an electronic image-making environment as applied in Metal Product Design, Textiles or Ceramics.

***v. Seminar (course code: IAM 364, IAT 381, IAC 497)***

Although seminar is offered across all sections and aims at achieving similar results, the course code are specific to each course Major such as IAM for Metals Section, IAT for Textiles Section and IAC for Ceramics section. Seminar constitutes presentations involving students, lecturers and professionals. It also deals with analysis and discussion on issues affecting the various industries specifically textile, metal, ceramics. Seminar is studied for four semesters.

## **2. Elective Subjects**

The Elective courses, popularly known as VC's Courses, comprises a variety of courses within Visual and Performing Arts as well as Sports and include such activities as Guitar Lesson, Sound Engineering, Acting techniques and swimming. The Elective course for the Industrial Art programme is a two-semester supplementary course which students are required to sign up for, usually in their second year of study. The Elective course is not organised by the department; they are courses offered by other departments within the

Faculty of Art. Typically, the department selects the group of courses they wish their students to access. These courses change over the years. Students are allowed to either maintain or change their elective course for the second semester as desired. At the time of the study, the Elective courses offered to students in the Industrial Art Department constituted the following:

- ▶ Festivals
- ▶ Rites of Passage
- ▶ Symbolism
- ▶ Dance
- ▶ Drumming
- ▶ Art Therapy
- ▶ Traditional Housing
- ▶ Architectural system

### **3. Sectional Major Courses**

The Industrial Art major courses include the Science and Art of Metals, Textiles and Ceramics. The curriculum is designed to cover both the theory and practical study of the nature of components of Textiles, Metals and Ceramics and their designing, crafting and branding such as Design and Modelling, Fabrication and finishing and Metallurgy under Metals Section, Basic Weaving calculations, Fashion Designing and Chemical Processing under Textiles Section and Ceramic Building Materials Technology, Ceramics Design and Kiln Design and construction. Details of the courses offered by the three Sections of Industrial Art Department are presented in Appendix 7.

#### **4.4 The Hidden Curriculum**

Although there are no specific courses on the IAD timetable that are specifically meant for teacher training, analysis of the Industrial Art curriculum disclosed that there are courses which may have an influence on the students' ability to become efficient as teachers but may not be readily known to many of them, especially those in their final year.

Oliva (1997) defines 'hidden curriculum' as contents within the curriculum that are not readily visible but has an influence on the student. The hidden curriculum refers to skills and knowledge that students or pupils gain from the school-system that are not necessarily listed on the timetable such as mimicking a teacher. As Carpenter and Lee (2010) and Barrett, Solomon, Portelli and Mujuwamariya (2009) acknowledge, there are indeed contents within curricula that are not clearly stated but exert some impact on students in diverse ways. The study therefore looked critically into the main curriculum offered in the three disciplines of the Industrial Art programme to ascertain the hidden curriculum that could influence IAD graduates to go into teaching.

##### **4.4.1 The IAD Hidden Content**

A study of the Industrial Art curriculum and the observation of theory and practical lessons for evidence of effective teaching as well as data obtained from response to questionnaires administered revealed that the Industrial Art courses and their aims are not directed toward teaching their students to become teachers. However, there are aspects of content that can be associated with the role of a teacher in terms of the teaching cycle. According to the LLUK (2008), there is a teaching cycle that all effective teachers follow: Initial assessment,



Preparation and planning, Delivery, Assessment, Evaluation and Revision based on the evaluation. This teaching cycle was adopted to help in identifying the hidden curriculum in the Industrial Art curriculum. The findings are described in the following sections:

### **1. Preparation and planning for lesson**

Two courses were identified to have a possible relation with the first stage of the teaching cycle, which refers to the preparing and planning of lessons: ATE 323 Research Methodology and Seminar (course code IAM 364, IAT 381 and IAC 497 for the respective sections), which are taken in the third year. Being a good teacher requires one to be well prepared for lesson delivery. This means that the teacher must have vast knowledge of the subject matter to be able to well educate students and also answer all questions that may arise in the course of the lesson (Smittle, 2003; Thompson, 2007). Being knowledgeable requires on-going self-development. As part of the Research Methodology course, the Industrial Art students in the various sections learn how to source for information on any given topic and to write a good report on it, which is similar to what successful teachers do prior to lessons. Understanding research and being able to source for current and suitable information on topics and organizing them into lesson notes are helpful practices of effective teachers is similar to what the Research Methodology course offers its students.

Seminar also entails time-bound presentation on different topics by the students and opportunity to give a good presentation on those topics; it requires the students learn to structure their reports to suit the time given and some even go an extra mile to rehearse prior to their presentation. In some instances, the class is allowed to interact with the presenters through the asking of questions and making suggestions. This activity is similar to the typical life of a teacher. Classroom lessons are time bound and teachers are expected

to be able to give a good presentation of lessons within the allotted period and still make room for interaction and exercises when required. However, teaching a topic to students and ensuring effective learning cannot be scaled on the same level as presentation of a topic to colleagues at a seminar as teaching demands more than just the students understanding what is taught but also being able to absorb what has been taught and being able to put the knowledge or skills acquired into practice.

## **2. Lesson Delivery**

Two courses that were identified as the hidden curriculum are: ENGL 157 Communication Skill and IAC 497/IAM 364/IAT 381 Seminar.

Lesson delivery is a very important stage in the teaching cycle since it is at this stage that effective learning can be secured. Good communication skill is a vital trait of an effective teacher (Adams and Pierce, n.d). Although having a good communication skill does not guarantee of successful lesson delivery, successful lesson delivery must result in effective learning. As Weimer (2013) indicates, effective learning requires understanding students' learning style, and knowing and using various teaching techniques. The Communication Skills course is aimed at equipping the students with oral and written language skills essential in getting a message across.

On the other hand, Seminars give the students the opportunity to present and discuss the results of research and projects done to their colleagues and lecturers in a clear and comprehensible manner. This practice can be knowingly or unknowingly adopted and utilized by the IAD graduates who become teachers.

### **3. Assessment**

Assessment is an inevitable duty of every teacher as it is the mode of getting feedback on lessons taught. Assessment provides evidence of learning by the teacher's students that appropriately evaluate the curriculum the teacher teaches (Darling-Hammond, 2012). Peer assessment within the Industrial Art programme is occasionally practised depending on the lecturer's preference. During Seminar and Exhibition of semester project works, the students are sometimes permitted to cross-examine and occasionally assess their colleagues' presentations and works exhibited. This form of assessment is usually informal and done without a marking scheme; however, it may possibly teach the students some basic skills they may apply in assessing their own students.

### **4. Evaluation and Revision**

In the final year of the Industrial Art programme, the students are required to write either a thesis or a Project report and to present an oral progress report during Seminars. After each presentation, the students are required to review and improve on what they presented. If the students go through the process critically, they might acquire the habit and skill of evaluation and revision which is essential for the success of a teacher (Labaree, 2000) as it helps to identify strengths to build on and weaknesses to improve upon (Finn, 2012).

#### **4.5 Profiling of the Industrial Art Graduates**

With reference to the data describing the Industrial Art Department and the Textiles, Metals and Ceramics programmes it offers, all graduates of the Department can be assumed to have also been trained to acquire the necessary knowledge and skills the three programme

options offer. At the end of the Industrial Art programme, the successful graduate is awarded a Bachelor of Art degree in Industrial Art (BA Industrial Art) under the major programme specialization. For instance, the BA Industrial Art (Metal Products Design) goes to Industrial Art graduates who majored in that discipline.

Based on the definition of ‘Professional Teacher’ given by the Ghana Education Service (Akyeampong, 2003) which is classified according to one’s level of education based on training and certification by a recognized teacher training institution in Ghana (the minimum required is a Diploma in Education), it can be established that the Industrial Art programme does not train its students to become professional teachers. Those who graduate from the Industrial Art Department of the College of Art and Social Sciences in KNUST can therefore not be rated as professional teachers unless they acquire further training and certification as required by the Ghana Education Service (GES); their current status of no professional teacher training and certification is what informs the GES classification of such graduates as Non-Professionals when they become employees in the teaching service.

It can be inferred from the discussion that the Industrial Art programme does not train its students to become teachers but the students are somehow exposed to some routines of teaching and learning processes which can influence their performance as Graduate Teachers as they go through the listed courses.

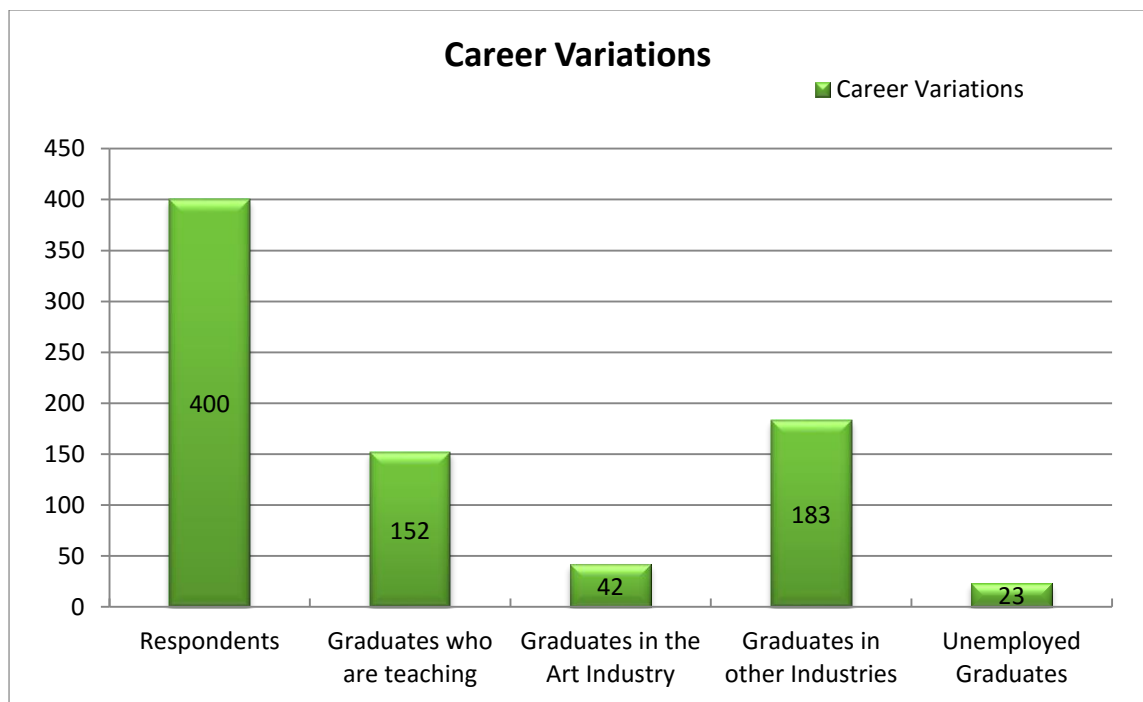
#### **4.6 Career Disparities among the Industrial Art Graduates**

In locating graduates of Industrial Art who had served or were serving as teachers, the snowball sampling technique aided in identifying 400 alumni of Industrial Art resident in Ghana and abroad. Out of the 400 respondents, 42 were in the Art Industry, 152 were in

the Teaching profession while the remaining 183 were working in various fields, including banking and finance, the military, human resource, non-governmental organisations, hospitality, sales and transport services while 23 were unemployed as illustrated in Figure 4.1. This corroborates the study by the Center for College Affordability and Productivity which reveals that half of university graduates are working jobs that do not require their degree (Kingkade, 2013).

The survey also divulged that there were 64 respondents among those working in the other industries who had previously served as teachers but were no more in the education profession. Among the 42 respondents found working in the Art Industry, only 18 were practising their Art specialization as their full time career. The remaining 24 were practicing their Art alongside other professions on part-time basis. Those graduates who were found to be unemployed had graduated between 2008 and 2011.

**Figure 4. 1: Career disparities among the Industrial Art Graduates**



The data in Fig. 4.1 shows that there are more Industrial Art graduates serving in the teaching field than the Art Industry which the Industrial Art programme is intended to train students for. Figure 4.1 also probably shows that getting a job as a teacher may be easier than getting one in the Art Industry (Goudreau, 2012; Berry, 2013; Loose, 2013).

#### **4.7 Socio-Demographic Characteristics of the Industrial Art Graduate Teachers (IAGTs)**

As Figure 4.1 shows, of the 400 respondents surveyed, 216 were teachers or had been teachers after completing the Industrial Art Programme. In terms of gender, the respondents comprised 124 (57%) males and 92 (43%) females.

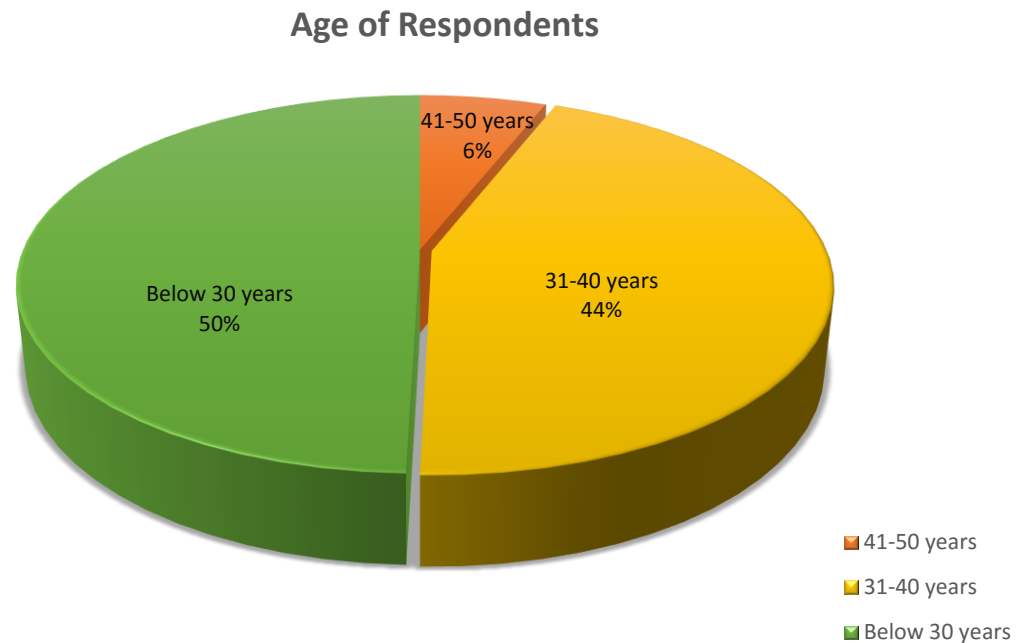
##### **4.7.1 Gender Disparities of Respondents**

The gender disparity (Male = 57%; Female = 43%) was unavoidable considering that respondents were located through snowball sampling and the choice of respondents for the study could not be controlled. Contrary to what researchers such as Patel (2014), Young (2014) and Pew Research Interest Project (2014) opine about women being the most involved in social networking, it was realized in this study that men were more in touch with their colleagues as compared to the females. It was more difficult to locate the females by the names they used while pursuing the Industrial Art programme. This may be attributed to many women changing their surnames after they get married (Filipovic, 2013; Long, 2013; Luzer, 2013) which makes it challenging to locate them by the names in school records or their maiden names.

#### **4.7.2 Age of Respondents**

In terms of age, the respondents were between 25 and 50 years with the average age of 94% of them ranging from 25 to 40 years. This is expected considering that more than 69.5% of the respondents graduated from the university between 2005 and 2012. It also implies that majority of the IAGTs sampled are in their active years and are proficient to serve for a longer period, all things being equal. One hundred and seven (107) of these respondents were within the 25 to 30 years age group and represented an equivalent of 50% of the accessible population; 96 respondents (or 44%) of them were within 31 to 40 years while 13 respondents (or 6%) were in the 41 to 50 years age bracket (see Fig. 4.2). The largest group of study respondents surveyed graduated in 2012 and were mostly doing their National Service. Those who graduated between 2007 and 2012 had been out of school at most for six years and were easier to locate. The study also revealed that the longer the years after graduation, the more difficult it is for people to keep in touch with their colleagues, which made it somehow difficult to reach more IAD graduates. Figure 4.2 shows the age grouping of the study respondents.

**Figure 4. 2: Age of respondents**



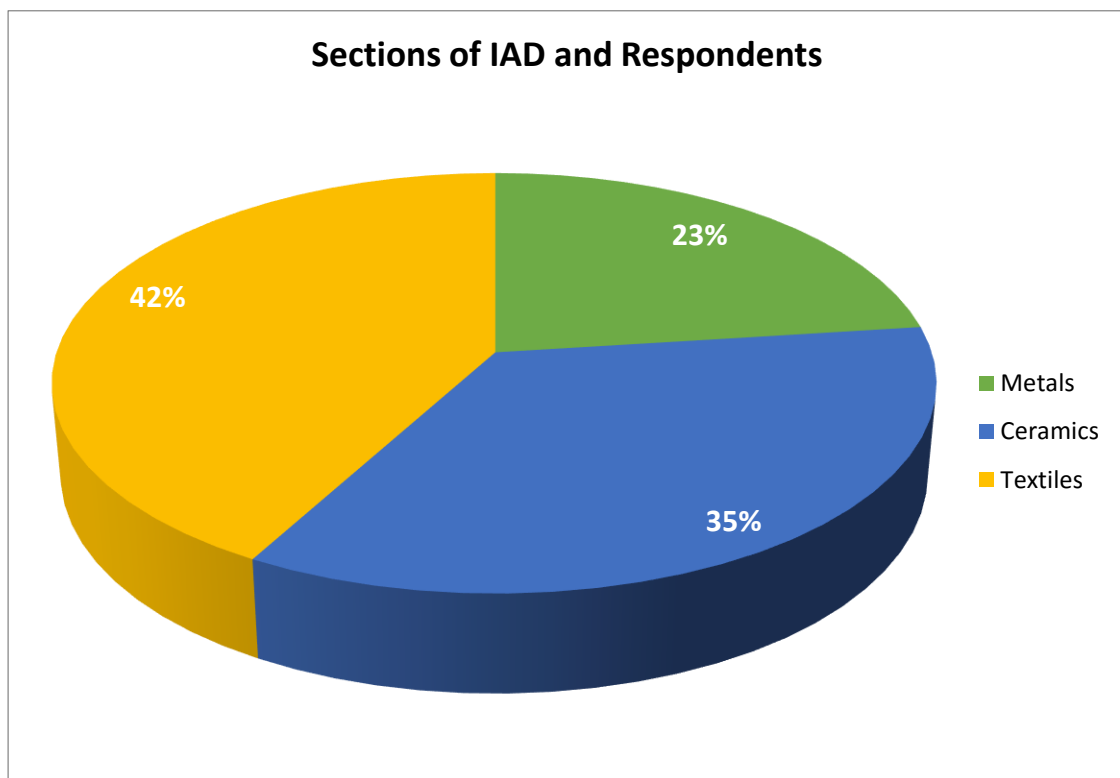
#### **4.7.3 Year Group and Sections of the IAGT respondents**

Respondents included graduates from the three sections of the KNUST Industrial Art. Of the number located, 68 respondents graduated from the Ceramics section, 55 from Metals section and 93 from Textiles. As indicated in Table 4.3, the largest group of respondents surveyed comprised Textiles graduates who represented 42% of the total number. Interviews held with some of the respondents disclosed that it is easier to get a job as a Textiles or Ceramics teacher in Senior High Schools as only a few schools offer Jewellery as part of the Visual Arts programme. Subsequent interviews with the graduates and some IAD lecturers revealed the difficulty in finding jobs in the few well-established Metals industries in Ghana, force the Metals Products Design graduates to resort to jobs in other



sectors. It became clear that the graduates find employment much more easily in Teaching, irrespective of the subjects they are assigned to teach. The large number of respondents who graduated in Textiles can also be associated with the fact that the Textiles Section of the Industrial Arts Department has over the years had the largest number of students overall and subsequently, the largest number of graduates as the study revealed (see Fig. 4.3).

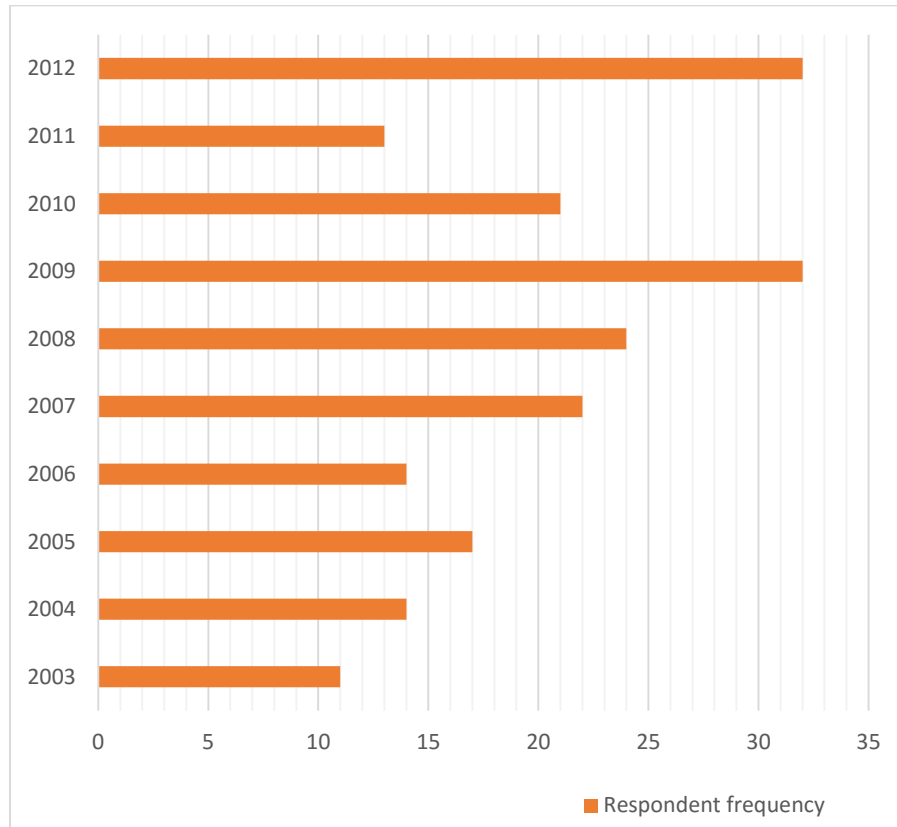
**Figure 4. 3: Sections of the IAGT respondents**



As also illustrated graphically in Fig. 4.4, the 2012 and 2009 graduates of the KNUST Industrial Art programme represented the largest number of IAD graduates surveyed. The lowest number represented those who completed university in 2003, a decade before this

study began. It is surprising that this many of them were located as representatives of their year group.

**Figure 4. 4: Year of Graduation IAGT Respondents**



#### **4.7.4 Location, Academic qualification and teaching experiences of the IAGT respondents**

With a Bachelor of Art degree, Industrial Art graduates qualify to teach both in private and public schools - from the basic level through to tertiary educational levels as National Service Personnel, Part-time teachers, full teachers, demonstrators and lecturers in the Polytechnics. Of the number of respondents surveyed, it was realized that 216 IAD graduates had been functioning as teachers after graduating from university. These Industrial Art graduates represented 54% of the total respondents that the initial survey

determined but only 152 were still teaching during the actual study period and distributed as follows: 42 in tertiary institutions, 49 in Senior High Schools, and 61 in Basic schools.

The graduates found engaged in Tertiary level teaching were mainly functioning as Demonstrators and Teaching Assistants (TAs) in the Universities and Polytechnics. All the respondents who were lecturing at the university level had additional postgraduate degrees or a PhD and had previously served as Teachers, Demonstrators or TAs with the BA Industrial Art degree before or during the period of further studies. Only one respondent lecturer at the Polytechnic level was teaching with the BA Industrial Art degree and was also studying for an additional postgraduate degree at the time of the study at the . Table 4.2 shows the distribution of respondents based on the level of education and status in terms of active teaching or experience of teaching.

**Table 4. 2: Location of the Industrial Art Graduate Teachers**

<b>Educational Level</b>	<b>Number of the Industrial Art Graduate Teachers</b>			
	<b>Graduates who became Teachers</b>		<b>Graduate in Teaching</b>	
	<b>Frequency</b>	<b>Percentage</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Primary School</b>	72	33.3%	46	21.2%
<b>Junior High School</b>	42	19.4%	35	16.2%
<b>Senior High School</b>	39	18.1%	32	15.0%
<b>Polytechnic</b>	7	3.2%	6	3.0%
<b>University</b>	56	36%	33	15.3%
<b>TOTAL</b>	<b>216</b>	<b>100%</b>	<b>152</b>	<b>70.7%</b>

With respect to respondents who were working at the university level, the study found that each of them had at least, a postgraduate degree but 57% of those working in the Polytechnics had only their Bachelor of Art degree and were in the process of acquiring postgraduate degrees. These respondents in tertiary education were all teaching Art related courses, which implies some direct application of the knowledge and skills the respondents had acquired from the Industrial Art programme. Similarly, all the respondents in the Senior High School category were teaching Visual Arts subjects and 50% of these Senior High School teachers had postgraduate degrees or were pursuing one. On the other hand the study found that respondents who were teaching in Basic Schools were teaching Creative Art and other subjects such as Math, Science, English, Social Studies, and ICT. In this category, only 26% had postgraduate degrees. Interestingly, 91% of the graduates who left the teaching profession did so within the first three years of their posting.

#### **4.7.5 Professional and Non-Profession Industrial Art Graduate Teachers**

The study revealed that 11% of the 216 Industrial Art graduate respondents had a professional teacher certificate before they enrolled in the Industrial Art programme (IAP) and were therefore certified as Professional Graduate Teachers when they acquired the additional BA Industrial Art degree. There was another 19% who asserted that they had teaching experience before they got on the IAP but were not professional teachers. All the professional Industrial Art graduate teachers were still teaching at the time of the study. Another 32% of respondents had also acquired the Professional Graduate Teacher status at the time of the study. The 11% (23) respondents who had a professional teacher certificate

prior to the Industrial Art programme were included in the sample size required to achieve Objective 1 of the study which was to identify Art graduates who had ever taken up teaching positions. This was done to enable a fair discussion of the factors that influenced these respondents' choice of career. Eventually, this 11% trained graduate teachers were excluded from the sample that provided a basis for in-depth study which was specific to Industrial Art graduates who had served or were serving as untrained teachers.

#### **4.8 Objective 1: Factors that influence Art graduates to become teachers**

On the reasons for joining the Teaching Profession, the questionnaire responses indicated that 61% of the 216 graduates were posted into the profession as National Service Personnel but the remaining 39% applied to join the Teaching profession. About 10% of the graduate respondents reported that they were qualified teachers before they joined the Industrial Art programme and were obliged to return to the classroom after completing the programme. As indicated in Table 4.4, several reasons account for Industrial Art graduates getting into teaching in Ghana. Other reasons given by the study respondents include:

*“I want to impart the knowledge I have acquired to others”.*

*“I taught after SHS and it was interesting”.*

*“Stepping stone to other careers”.*

*“I have the passion to teach”.*

*“It is all about imparting what you know”.*

These responses indicate that although the Industrial Art programme in KNUST does not train its students to become teachers, there are some graduates who are interested in the

teaching profession and are ready to impact others with the knowledge they had acquired and others who do not necessarily have the interest in teaching but would still take up a teaching job. Regardless of the factors that make these graduates take up teaching jobs, it is assuring to discern that they could become efficient as teachers. Reasons given by respondents for taking up teaching positions are provided in Table 4.3.

**Table 4. 3: Reasons why Art Graduates join the Teaching Profession**

<b>No</b>	<b>Reason for joining the Teaching profession</b>	<b>No. of Count</b>	<b>Percentage (%)</b>
1	National Service Scheme postings	122	61.0
2	Interest in the Teaching Profession	136	69.0
3	Unavailability of jobs for graduates in Art Industry	187	93.5
4	Easier to find a job as a teacher	51	25.5
5	Already a teacher	26	12.5
6	Job security	15	7.5
7	Flexibility of the teaching career	23	11.5
9	Confidence of being efficient	87	43.5

As Table 4.4 indicates, unavailability of jobs in the Art industry (187), National Service posting (122), interest in the teaching profession (136), and self-confidence that teaching is easy (87) were the most stated reasons for many of the study respondents joining the teaching profession. The following sections explain these reasons.

## **1. National Service Scheme postings**

Annually, graduates of universities and polytechnics in Ghana are assigned by the National Service Scheme to serve in various sectors of the Ghanaian economy across the nation; most of them end up working in the Education, Agriculture and Health sectors, as an obligation. The questionnaire revealed that 61% of the study respondents were posted into Education as Teachers by the National Service Scheme (NSS), and 33% of them were still teaching as National Service personnel. Although the NSS assigned them to schools, some respondents asserted that they already had interest in teaching and therefore stayed on in the teaching profession when they were given the opportunity to continue teaching. There were others who did not have the interest in teaching yet they stayed on after the NSS when the opportunity arose because according to them, they needed employment. Respondents who were still in the teaching service also wished to stay on if they are given the opportunity to stay on after National Service.

## **2. Interest in the Teaching Profession**

Nearly 69% of the respondents stated that they became teachers because they were interested in the profession although only 28% affirmed that as students, they wanted to be teachers. Terms that the respondents used to denote the desire to become teachers include “interest in teaching”, “passion to teach” and “desire to impart knowledge”. There were others who stated this intent as “love working with children”. This category of respondents included 82% of those who had prior experience of teaching.

### **3. Unavailability of jobs for graduates in Art Industry/Easier to find a job as a teacher**

Nearly 94% of the IAGT respondents asserted that they could not find jobs in the Art industry. In other words, it is easier for the graduates to find a job as a teacher than as a practicing artist (Berry, 2013). When graduates do not find the jobs they have been trained for, they end up settling for any job that does not necessarily require their certificate (Kingkade, 2013).

### **4. Already a Teacher**

Nearly 11% of the study respondents stated that they had been teachers before pursuing the degree Industrial Art programme (IAP). These teachers had a commitment to the Ghana Education Service (GES) and were therefore required to return to the classroom after their studies. Three respondents (2%) who were in the non-professional teachers category indicated that as teachers before joining the IAP, they had been invited by their previous schools to return to their teaching post.

### **5. Job Security**

Job security was the reason or one of the reasons stated by 15 respondents as their reason for joining the teaching profession. Further inquiries disclosed that in the government sector of Ghana's economy, when one finds a job as a teacher with GES and is placed on the government payroll, one is assured of job security and regular monthly income until retirement.



## **6. Flexibility of the teaching career**

“I can do other jobs alongside teaching”, “I wanted to make more time for my family” and “Teaching is flexible and less stressful” were some of the statements respondents made under this category.

### **Reasons for leaving the Teaching Profession**

Overall, 91% of the Industrial Art graduates surveyed were found to have left the teaching profession within the first three years of their posting. With respect to Objective two of this study, respondents who had left the teaching profession were asked to state the reasons for their action. From their responses to this question, it was noted that 78% of those who left the profession did so at the end of the one year National Service period. Thirty percent (30%) of the graduates who quit teaching were Basic School teachers. The reasons they stated for this action include:

*“It was too tiring dealing with the pupils” (English teacher in primary school; Social Studies teacher in JHS)*

*“I got a different job I prefer” (Math teacher in primary school)*

*“The children were too stubborn...it is not easy at all! (General subject teacher, primary school)*

*“The location was not favourable”. (Physical Education teacher in Primary and JHS)*

Other reasons stated for some IAGTs leaving the Teaching profession are as follows:

1. Completion of National Service Scheme.
2. Found a job of interest.
3. Lack of interest in teaching.
4. Travelled abroad.
5. Difficulty in managing students.

6. Low salary.
7. To further education.
8. Challenging condition in rural schools such as accommodation and access to basic human needs.

#### **4.9 Objective 2: Factors that affect Art Graduate Teachers in performing effectively**

The strengths and challenges of the IAGTs were categorised according to the responses deduced from the data collected through interviews and questionnaires. To find out the factors that affect the IAGTs' efficiency as teachers, the respondents were asked to respond 'Yes or No' to whether their educational background in Industrial Art helps them to perform their duties as teachers more effectively in terms of knowledge of subject content, preparing and planning for lessons, lesson delivery, classroom management and students' learning management, students' assessment and evaluation and revision. The responses given are presented in Table 4.4.

**Table 4. 4: Effect of Industrial Art Programme on teaching tasks of IAGTs**

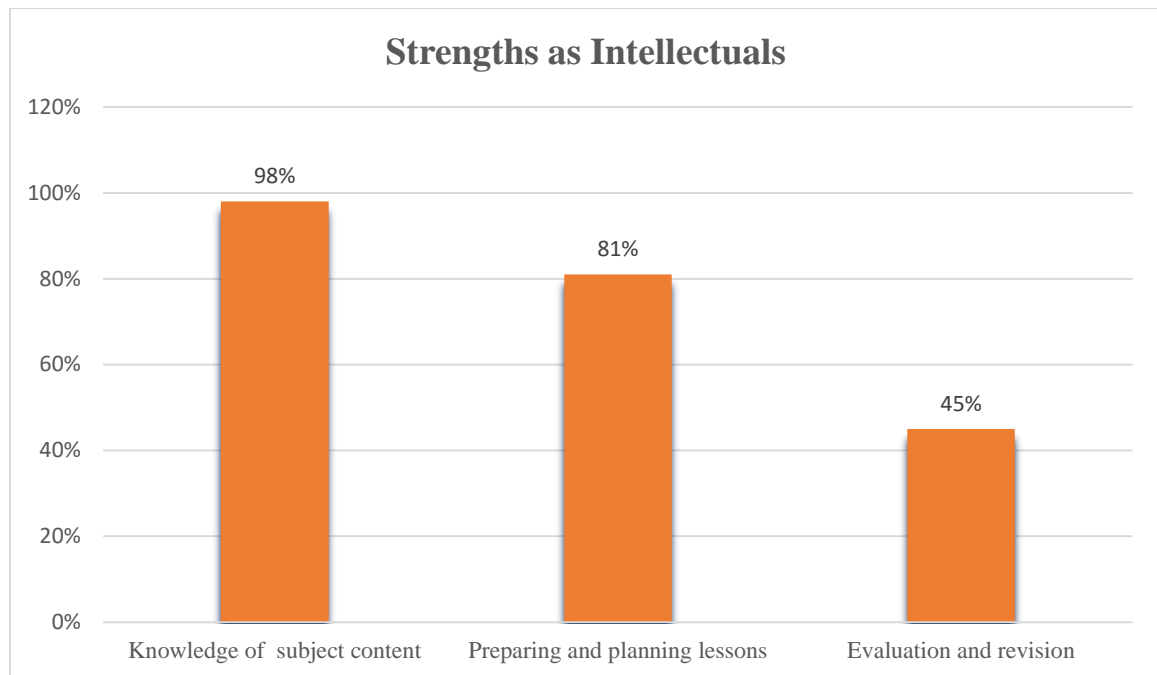
<b>No.</b>	<b>Effective Teacher characteristic</b>	<b>'Yes'</b>	<b>Percentage (%) of Total</b>
1	Knowledge of subject content	163	84.4
2	Preparing and planning lessons	39	20.2
3	Effective Delivery of lessons	12	6.2
4	Classroom / learning management	2	1.0
6	Assessing students	16	8.3
7	Evaluation and revision	41	32.0

Based on the factors stated in Table 4.5, knowledge of subject matter is the advantage many graduates take to the job as teachers. Respondents who chose ‘Yes’ included those who taught Art as well as those who taught other subjects. There were 36 respondents who chose ‘No’ for all activities. With the exception of ‘Knowledge of subject content’, more than 51% of those who mostly served as temporary teachers could not identify a link between the Industrial Art programme (IAP) they studied and their duties as teachers. Some respondents who were interviewed were quick to dismiss this possibility with such statements as “Industrial Art does not train teachers”. This is to say that contrary to the aim of the Industrial Art Department (IAD) training students to take up positions in “manufacturing, commerce, teaching, Research and Development” (CASS Handbook, 2007), some graduates of this department see no relation between what they learn and the performance of their tasks as teachers except for the theoretical and practical knowledge and skills in Art which they had acquired. Interestingly, ‘Classroom and learning management’ was the least factor recognized by the study respondents.

### **1. Strengths of IAGT’s as Intellectuals**

As a follow up question to find out the effect that the Industrial Art programme has on the graduates’ efficiency as intellectuals, the respondents were asked to list their strengths. Their responses are categorized under three main themes as represented in Figure 4.5.

**Figure 4. 5: Major Strengths of respondent IAGT**



‘Knowledge of subject content’ was found to be the major strength of the Industrial Art Graduate Teachers (IAGTs). Analysis of the Industrial Art curriculum (CASS Handbook, 2007) indicates that the Industrial Art programme has contents that may positively influence the efficiency of the graduates who become teachers. The Industrial Art curriculum has both theoretical and practical Art courses which provide opportunity for the students to acquire knowledge in Art as well as essential fabrication skills. This was evident from the answers provided by 98.5% of respondents who taught or were teaching Art related subjects which indicated that their strength was knowledge of the subjects they teach. Respondents who indicated otherwise were teaching Art subjects which were not included in the Industrial Art curriculum; mainly painting and leatherwork. Respondents who were teaching Art related subjects which were not components of the Industrial Art Curriculum (IAC) such as Leatherwork, Creative Art, Sculpture and Graphic Design

indicated that the IAC was helpful in providing knowledge of subject matter for their teaching tasks. This could be attributed to personal skills or knowledge acquired through the hidden curriculum.

Responses that explain the relationship of programme to teaching efficiency include the following:

- *“Studying Industrial Art made me far better in teaching practicals compared to my colleagues. They come for consultation”. (Creative Art Teacher, Basic School)*
- *I teach Science and English but because I studied Research, I know how to get the materials I need to prepare my lessons”. (Subject Teacher, Basic School)*
- *“What I learnt from studying Textiles made it easier for me to teach Textiles and even GKA, especially practicals”. (Visual Art Teacher, SHS)*
- *“I was assigned to teach Sculpture although I studied Ceramics but I still excelled because Ceramics is broad and those I don’t know, I just research”. (Visual Art Teacher, SHS)*
- *“It’s a matter of doing a good research”. (Textile Lecturer, Tertiary)*
- *“I learnt most of the things I teach from this Department”. (Ceramic Lecturer, Tertiary)*

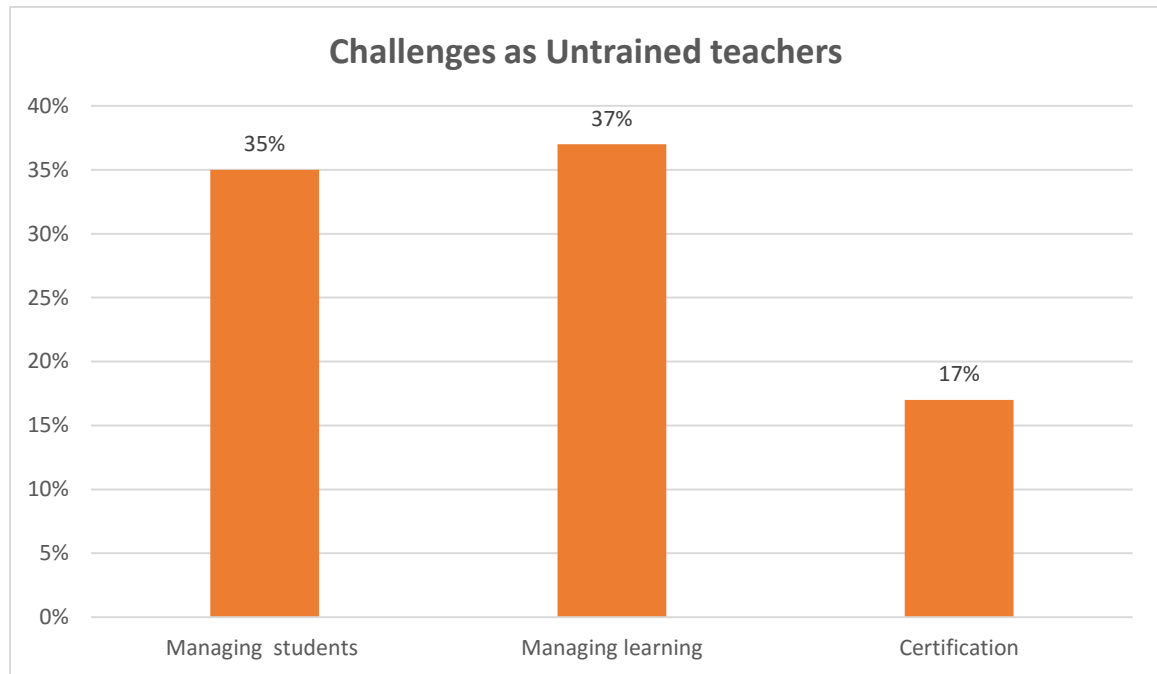
It is crucial for teachers to be proficient in the subject matter (Smittle, 2003) for it is a step away from achieving effective teaching. What remains is the ability to convey the message effectively.

## **2. Challenges as untrained teachers**

The challenges listed by the IAGT respondents centred on addressing students’ learning needs. The IAGTs as intellectuals also encounter challenges that are mostly associated with

new teachers in their quest to achieve effectiveness in their role as teachers. As Fig. 4.6 illustrates, the challenges of the IAGTs centered on the management of students and the learning situation.

**Figure 4. 6: Challenges of IAGTs**



Dealing with pupils or students is not an easy task (Riggs, 2013) and yet, many new teachers take it for granted. It was gathered from the study that except for two respondents who joined the profession with no prior teaching experience, all other respondents cited ‘managing students’ as a challenge. This suggests that teaching may look easy but this notion can only be told in detail by an experienced person. Some of the explanations given by the respondents include the following statements:

- “*Dealing with the pupils was my biggest challenge*”. (Basic School Teacher)
- “*Handling the pupils. They don’t understand anything even worst when it is taught in English*”. (Basic School Teacher)

- *“Lack of basic skills in teaching made it difficult since much is expected of graduates”. (SHS Teacher)*
- *“We are sometimes taken for granted in spite of our excellence because we don’t have the profession certificates but I can testify that many of us perform even better than the trained teachers”. (SHS Teacher)*
- *"There are topics that I understand clearly but find it difficult to teach for them to understand". (Lecturer, Tertiary)*
  - *“Teaching methodologies”. (Lecturer, Tertiary)*

In all, 29 respondents (15%) stated that they encountered no challenges. This number included both respondents who had prior experience of teaching and respondents who had none.

#### **4.10 Objective 3: The state of the Art graduates in ensuring effective teaching and learning**

In ascertaining the success of the IAGTs as efficient teachers, direct classroom observation was done by the researcher to find out how they perform their teaching tasks in the classroom. The perception of students and colleagues of the teachers whose lessons were observed were also sought to validate data obtained through personal observation. Also, perceptions of the final-year Industrial Art students were sought to have an idea of their preparation for national service teaching. As a means of measuring of effectiveness of the teaching and learning outcomes, classroom tests were conducted after the lessons were observed.

#### **4.10.1 Findings from Classroom Observation**

To validate the findings deduced from the IAGTs' responses to the questionnaire, the researcher observed lessons of the graduate respondents who are classified by GES as Non-Professional Graduate Teachers. These teachers are mostly found in the Primary, Junior and Senior High Schools. In the quest to determine the state of the IAGTs in terms of their effectiveness, twenty (20) lessons were observed using the developed observation guide (see Appendix 5) that was based on the criteria of effective teaching defined by the MET Project (2014). Teaching activities were scored using the following marking scheme: Not observed = 0, Poorly Practiced = 1, Average = 2, Well executed = 3. Each activity was scored over three (3) points.

##### **1. Preparing and planning lessons**

The commonest aspect of teaching practice observed was 'introduction' to lessons. An overview of the lesson was given in all cases but with different approaches. In some instances, the interest of their students were captured during the teacher's presentation of the overview. This was usually the cases where the introduction was engaging rather than simple presentation of bullet points provided by the teachers. The IAGTs' proficiency in classroom organisation was scored at 70.7% with their major point being 'arrival to class on time, presentation of lesson overview and summarizing of major points' as presented in Table 4.5. The lowest scored aspect was 'relating lessons to previous or future lessons', which shows the IAGTs' lack of knowledge of the importance of previous learning experiences to quality teaching and successful student learning.



**Table 4. 5: Findings from Classroom Observation**

<b>Teacher Characteristics</b>	<b>Frequency of Score</b>	<b>Percentage (%) of Total Score</b>
Arrived early for lesson	54	90.0
Used lesson notes	47	78.3
Related lesson to previous/future lessons	32	53.0
Summarized major points of the lesson	45	75.0
Presented overview of lesson	46	76.7
<b><i>Total</i></b>	<b><i>224</i></b>	<b><i>74.7</i></b>

## **2. Lesson Delivery**

It was realised that all the IAGTs were conversant with the need for writing lesson notes although not all of them made use of their notes during lesson implementation. Preparation of lesson notes is mandatory teacher practice in Ghana, particularly at the basic and secondary levels of education (Opoku-Asare, 2006; Boafo-Agyemang, 2010; Osei-Sarfo, 2012). The teachers affirmed that they all had lesson note books and 80% had proof of it; in instances where the teachers' lesson notes were not available, they taught their lessons from textbooks.

Variation in the way the IAGTs presented their lessons was evidenced in the observation. Explaining major points of lessons with varied examples was regularly observed. It was also observed that the teaching technique used by some of the new teachers was mainly the lecture method. This was probably the influence of the kind of teaching they experienced as university students. As Wubbels and Levy (1993) and Levin and Riffel (2005) have pointed out, new teachers tend to copy their past teachers.

Writing key words on blackboards was the most common practice observed among 96% of the sampled IAGTs. In some instances, unfamiliar terms were mostly defined and explained solely by the teachers while others gave their pupils or students the opportunity to try them out. The use of teaching and learning materials (TLMs) during teaching and lessons that catered for a variety of learning styles were the least observed. Interviews held with the teachers revealed that unavailability of TLMs was the reason for their non-use during lessons. As Fox (1998) and Kawulich (2005) indicate, people tend to perform better when they are being observed but in this case, the observed lessons confirmed that the IAGTs did not know that students have different learning styles that their lessons should cater for if their teaching should be effective. They also did not know the importance of involving their students in their lesson delivery to ensure effective learning. Details of the observed lessons are provided in Table 4.6.

**Table 4. 6: Results for Lesson Delivery**

<b>Activities observed</b>	<b>Frequency of Score</b>	<b>Percentage (%) of Total Score</b>
Presented topics in logical sequence	41	68.0
Defined unfamiliar terms, concepts, and principles	50	83.0
Used good examples to clarify points	19	71.7
Emphasized important points.	47	78.3
Paced lesson appropriately	38	63.3
Writes key terms on blackboard or overhead screen	58	96.6
Integrates teaching and learning materials	27	45.0
<b>Total</b>	<b>280</b>	<b>66.7</b>

### **3. Classroom and student learning management**

Contrary to the challenges stated by the IAGT respondents (see Figure 4.4), students and learning were well managed by the teachers observed. This could be attributed to improvement made from experience or self-consciousness. However, as Howard (2010) affirms, during classroom observation, students “usually behave typically and in a more restrained manner because they either believe that they themselves are being observed, or they like the teacher, or there is the possibility of it being used against them” (p. 323). In all the lessons observed, there was cordial relationship between the teachers and their students or pupils. Perhaps this moderated the classroom atmosphere for the teachers. Although tense at the beginning, in most cases, the students or pupils became more relaxed as the lessons progressed. The teachers also exhibited patience and concern in their interaction with the students or pupils and dealt with their concerns. It was also noted that in most cases, questions the teachers asked during those interactions were mostly posed to brilliant students or pupils in the class rather than the ones who lag behind, which insinuated that the slow learners were being left behind. Further study revealed this was not so in their everyday class activities, which imply that the brilliant ones were chosen to answer the teachers’ questions, perhaps to make the lessons run smoothly or to just make the teacher look good in the presence of the researcher. Table 4.7 shows the factors that the observation highlighted.

**Table 4. 7: Results for Classroom and students' learning management**

<b>Teacher Characteristics Observed</b>	<b>Frequency of Score</b>	<b>Percentage (%) of Total Scores</b>
Actively encouraged student questions	48	80.0
Exhibited patience for students to answer questions	36	60.0
Listened carefully to student questions	46	76.0
Restated questions and answers when necessary	42	80.0
Presented material at an appropriate level for students	42	70.0
The lesson allowed for a variety of learning styles	28	47.7
Demonstrates respect for diversity and requires similar respect in classroom	54	86.7
<b><i>Total</i></b>	<b>296</b>	<b>61.7</b>

#### **4. Content Knowledge**

It was evident in all the lessons observed that the teachers were well prepared and confident in the topics they were teaching. This was ascertained through the series of observations made on such aspects as the teachers' response to students' questions, varied use of examples and fluency during the lesson presentation. Table 4.8 displays the performance of the teachers in this regards. It was also observed that teachers who were teaching Art related subjects were more fluent in delivering the lesson in terms of the use of a variety of examples and demonstrations which can be associated with their training as artists who are well-versed in the Arts hence performing better as Art teachers than if they probably were teaching non-Art topics.

**Table 4. 8: Results for Content Knowledge**

<b>Activities observed</b>	<b>Frequency of Score</b>	<b>Percentage (%) of Total Score</b>
Explained major/minor points with clarity	46	76.7
Varied explanations for complex or difficult material	46	76.7
Responded appropriately to student questions	36	60.0
Demonstrated command over topic	56	93.3
<b><i>Total</i></b>	<b><i>184</i></b>	<b><i>76.7</i></b>

## **5. Assessment**

Assessing students' progress was also one of the practices most observed. The teachers asked students questions during the observed lessons, usually to monitor the students' concentration and in other instances, their understanding of what was being taught. The only variation noticed was the time allocated for the students to answer the questions asked by the teachers. In many cases questions were posed to students who seemed not to be concentrating on the lessons; those questions were passed to other students when the first student hesitates in providing the answer. Teachers gave assignments and in some instances topics for further study. Teachers inquiring about previous assignments provided the evidence that giving of class assignment was not a show off practice for the sake of the observation. Table 4.9 provides the details of this factor.

**Table 4. 9: Results for Students’ Assessment**

<b>Activities observed</b>	<b>Frequency of Score</b>	<b>Percentage (%) of Total Score</b>
Checked previous assignment	38	63.3
Asked questions to monitor student understanding	50	83.3
Gave class exercises	57	95.0
Gave assignment	56	93.3
<b><i>Total</i></b>	<b><i>201</i></b>	<b><i>83.75</i></b>

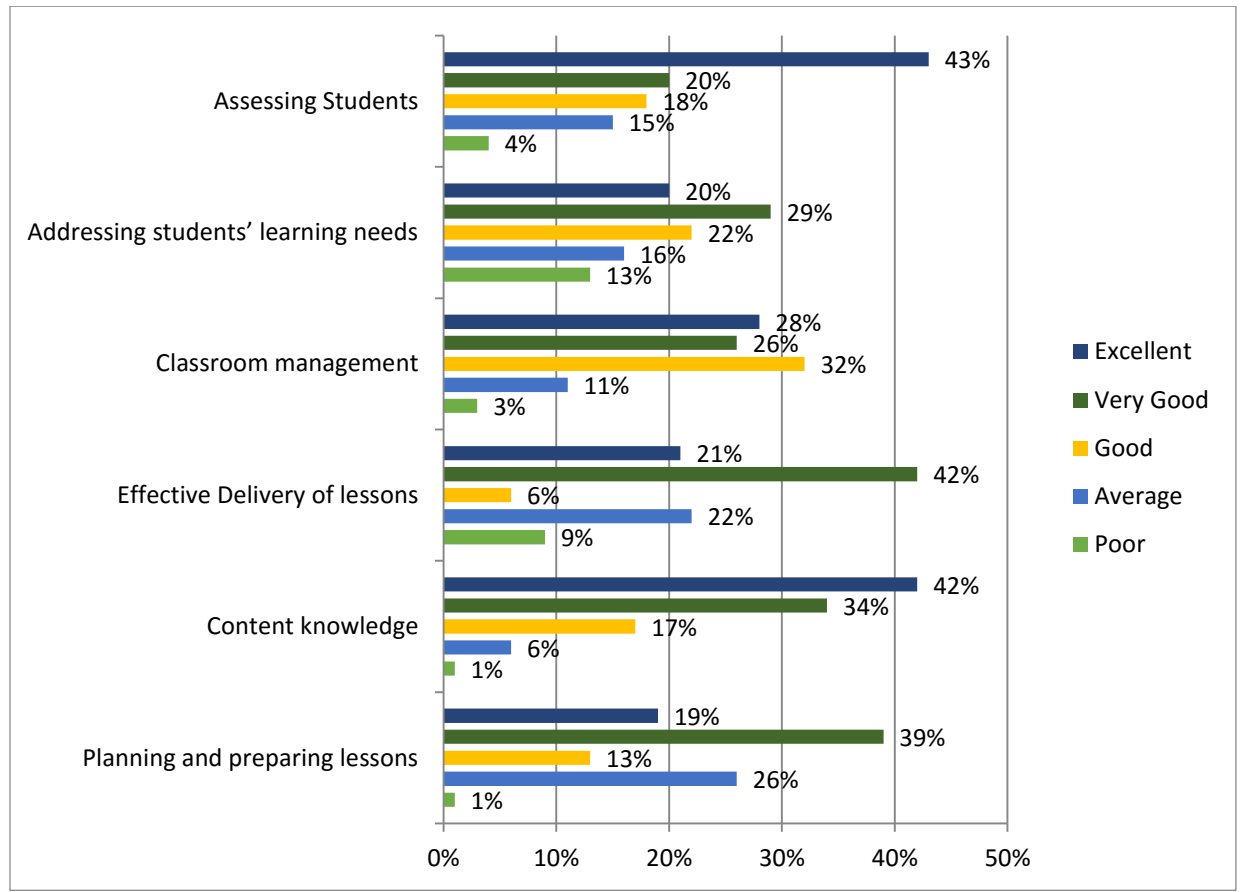
#### **4.10.2 Students’ Satisfaction Survey**

“Students recognize an effective classroom when they experience one’ (MET Project, 2013) and therefore are prime sources of firsthand information of their teachers’ effectiveness through their experiences as learners. In view of this, the perception of the students of the sample teachers who were observed was sought through administration of questionnaire and focus group interviews. It was observed that the students or pupils were hesitant in providing information about their teachers until they were assured that the information would not be used against their teachers and that the answers would be kept confidential. Questions asked in this respect are provided in Appendix 6 and the responses in Figure 4.6.

In this respect, 43% of the students scored their teachers ‘excellent’ in ‘Assessing Students’ whereas 4% scored them ‘poor’. In terms of ‘Addressing students’ learning needs’, 20% of students or pupils scored the teachers ‘excellent’ whereas 13% scored them ‘poor’; a majority of 29% scored their teachers ‘very good’. The majority (32%) asserted that their

teachers are 'good' in 'Classroom management' with 28% grading them 'excellent' and 3% grading them 'poor'. With 'Effective lesson delivery', the majority of 42% graded their teachers 'very good' with 21% grading them 'excellent', and 9% grading them 'poor'. With respect to 'Content knowledge', 42% of the students (the majority) scored their teachers 'excellent' whereas 6% scored their teachers 'poor'. In terms of 'Planning and preparing lessons', 19% of the students rated their teachers 'excellent', 1% rated them 'poor' and the majority of 39% scored them 'very good'. The students' rating of their teachers shows that 'Assessing Students', 'Effective Delivery of Lessons' and 'Content Knowledge' are the strengths of the IAGTs who were observed. This is evidence that these highly rated variables imply that the observed IAGTs can be classified as effective teachers.

**Figure 4. 7: Summary of Students' Survey**



### 4.10.3 Student Achievement Gains

#### *Analysis of After-Lesson Class Test Results*

To assess whether the students understood what had been taught them, they were tested on a set of 10 questions designed by the sampled teachers at the end of each observed lesson. The students' works were marked over 10 points and converted to a percentage grade. This was done for lessons that were being taught for the first time to the students. The tests were taken by 508 Basic School pupils and 202 SHS students. Each class was given notice at the beginning of the first lesson that there would be a class test after that lesson. Table 4.10 shows that 81.9% of Basic School pupils scored at least 49% which implies that they had



to a large extent, understood the lesson that was taught on the day of the test and hence, effective teaching and learning had occurred. In the Senior High School category, 80.3% of the students scored above 49% and as a result, it can be concluded that effective teaching and learning were achieved.

**Table 4. 10: Results of after-lesson class test**

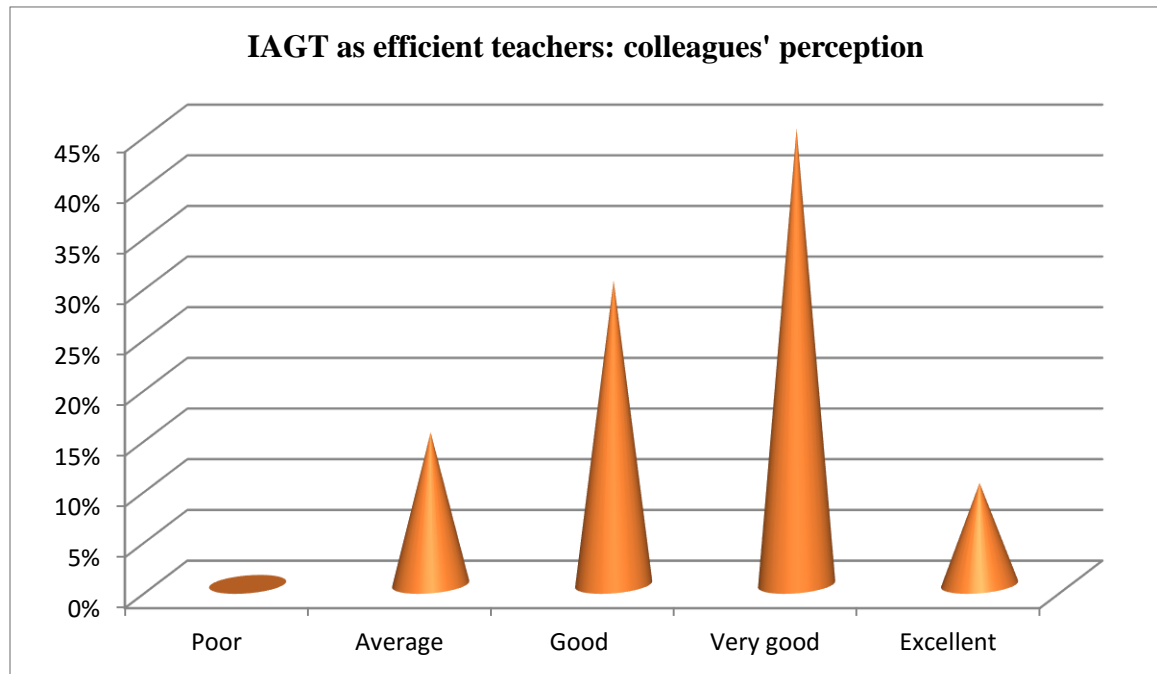
<b>LEVEL</b>	<b>A 70-100%</b>		<b>B 60-69%</b>		<b>C 50 -59%</b>		<b>D 40-49%</b>		<b>E &amp; F 39 – 0%</b>	
	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>	<i>Freq.</i>	<i>%</i>
<b>BS</b>	78	<b>15.3</b>	264	<b>52.0</b>	74	<b>14.6</b>	44	<b>8.7</b>	48	<b>9.4</b>
<b>SHS</b>	88	<b>43.6</b>	40	<b>19.9</b>	34	<b>16.8</b>	21	<b>10.4</b>	19	<b>9.4</b>

#### **4.10.4 IAGT Appraisal by Colleague teachers**

Responses from colleagues of the sampled IAGTs and their Heads of Department (HOD) proved positive interpersonal relationships existed between the teachers and other staff in the school as well as between the teachers and their students, except for one instance where there seemed to be a misunderstanding between a teacher and the HOD. Some of the IAGTs' colleagues admitted they had not witnessed firsthand a full lesson of the IAGTs before to base their assessment on what they had observed, but based upon the responses obtained from their students, and those students' performance, they could conclude that the IAGTs in their schools were efficient as teachers. A colleague Art teacher of two IAGTs

in the same school reported that though he is a professional teacher, he consults the IAGTs when he needs assistance with some practical works and difficult topics. The responses of the IAGT colleagues are classified in Figure 4.8.

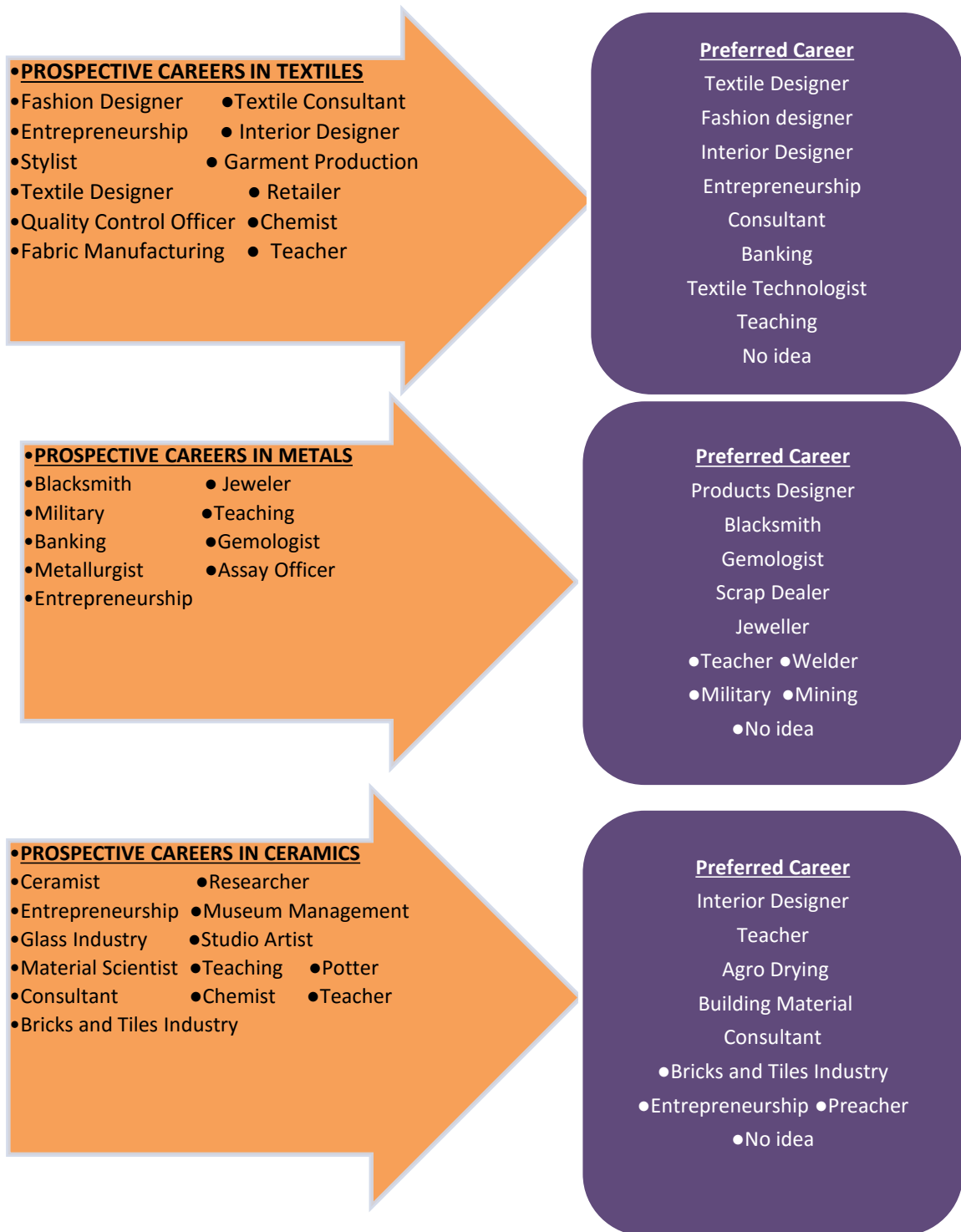
**Figure 4. 8: Colleagues' Assessment of IAGTs as efficient teachers**



#### **4.10 Perceptions of Final Year Industrial Art Students**

The final year Industrial Art students were asked to state careers that the Industrial Art Programme offers its students and to also indicate their preferred careers. The responses are expressed in Figure 4.9.

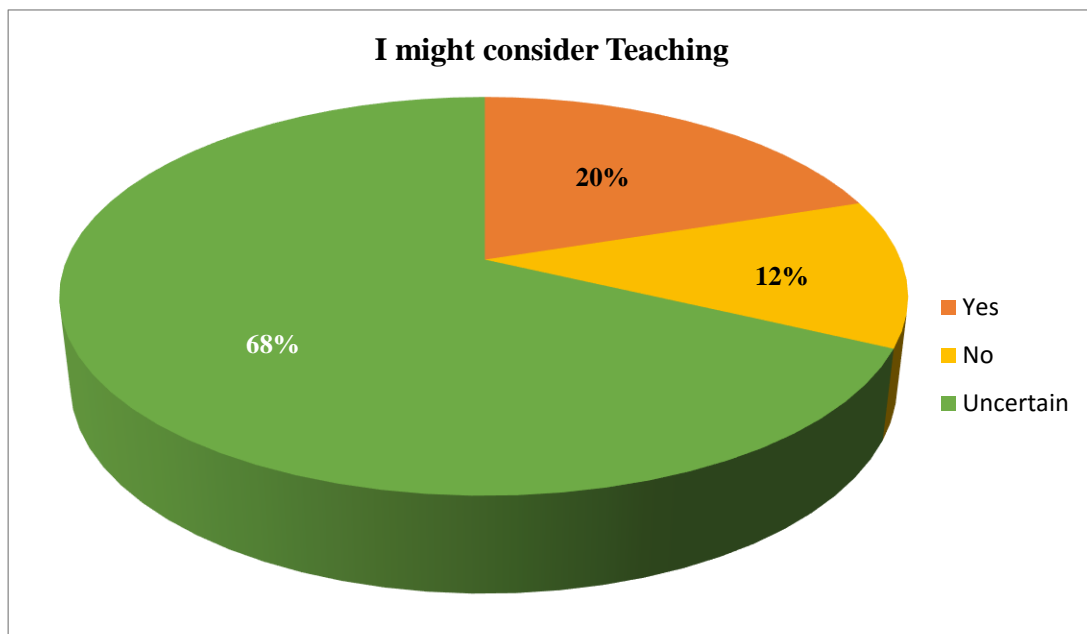
**Figure 4. 9: Prospective Careers for the Industrial Art Programme: Students' Perception**



### Perceptions of Final Year Industrial Art Students of Teaching as a Career

The final year students' responses cited in Figure 4.9 affirms that the Industrial Art programme trains them for the Arts Industry. Forty-eight percent (48%) of the respondents stated that they preferred jobs that are not in the Arts Industry which includes Teaching (18%) as a preferred career. However, when asked if they would consider teaching when the opportunity arises, 20% stated that they would. This response is in line with the findings for Objective Two where only 25% of IAGTs had considered the teaching profession as a career option while in school, with more than 50% of them ending up as teachers.

**Figure 4. 10: Students' perception of teaching as a prospective career**



In Fig. 4.10, it is seen that 68% of the graduates were confident that they would be able to teach effectively even without teacher training while 42% disagreed with this view. Responses to whether or not the final year students were considering teaching as a career are categorised as follows:

**Reasons for ‘Yes’ answer:**

1. Passion for the Teaching Profession.
2. Love for working with children.
3. Depending on the subject assigned to teach.
4. Already a professional teacher.

**Reasons for ‘No’ answer:**

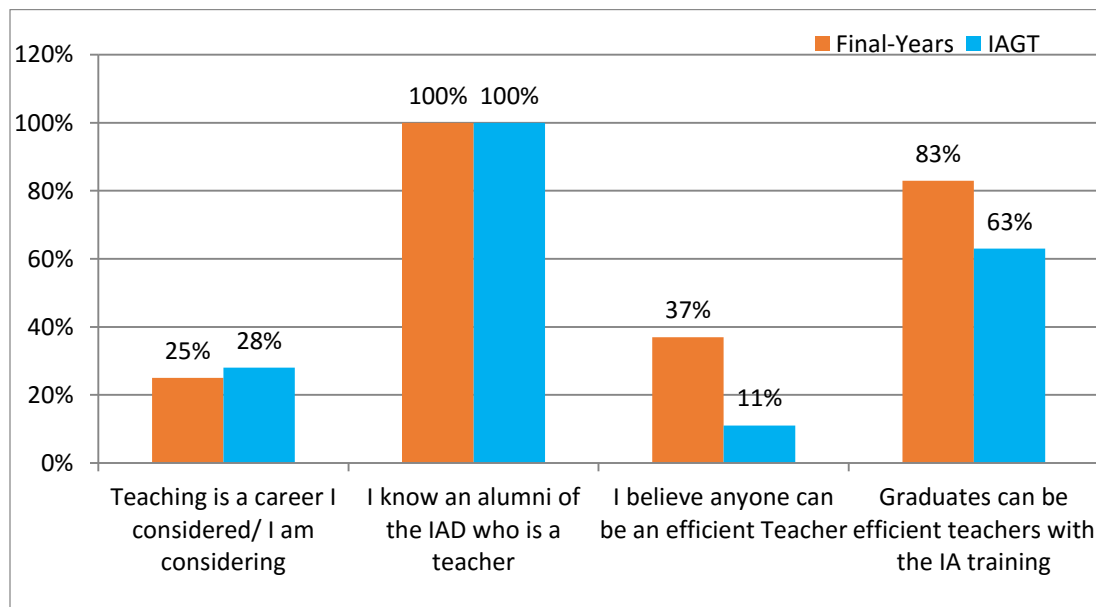
1. Lack of interest.
2. Not trained for the teaching profession.
3. Teaching not lucrative.
4. Not related to the Industrial Art Programme.
5. Already a professional teacher.

**Table 4. 11: Final-year students’ perception of effective teaching**

<b>Industrial Art Graduates CAN TEACH Effectively</b>	<b>Industrial Art Graduates CANNOT TEACH Effectively</b>
It is all about passion	Curriculum does not equip students for that.
University education is versatile	Teaching needs passion
It’s all about communication	Teaching needs self-discipline
Once they know the topic, they can teach	Teaching is difficult
They were teachers before IAP training	Need training to teach
Teaching is easy	Teaching is a gift
Knowledge is the Key	
We learn from our lecturers	

It was realized from the discussions that the final year students sampled believed that the Industrial Art Programme provides preparation for a wide range of Art related careers as well as some general careers. Some of the careers they listed as prospective careers offered by the IAP include gemologist, metallurgist, materials scientist and museum manager, which are careers that are not readily available on the Ghanaian job market or can hardly be acquired with a Bachelor of Art degree; these are the careers the IAP students were considering. The list of “preferred careers” can be the evidence of a lack of interest or confidence in the prospective careers their IAP training generally prepares them for.

**Figure 4. 11: IAGTs as efficient teachers: comparison of perceptions**



Many of the students were uncertain about becoming teachers. However, those who stated that they did not mind becoming teachers outnumbered those who completely dismissed the possibility of this occurring. Some final year students accepted that teaching needs specialized training while others assumed it is simple (see Figure 4.11). Contrary to the

opinions of the IAGTs, the final-year students believed that university graduates can teach effectively without teacher training. Career preferences of the final year Industrial Art students also seem to reflect the views of the IAGTs. Whether they like it or not, teaching has become the main career option for Industrial Art graduates.

## **CHAPTER FIVE**

### **5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

There are Art graduates who are teaching across educational levels as untrained teachers. The study therefore sought to identify why the Art graduates of KNUST end up in the teaching profession when they had not been formally trained for the classroom. It was also designed to find out the knowledge and skills they integrate in their role as effective teachers, the challenges they encounter as untrained teachers and whether or not they are successful in spite of their limitations.

#### **5.1 Summary**

The study was based on Industrial Art graduates of Kwame Nkrumah University of Science and Technology (KNUST) who now serve as teachers or were once teachers after graduating from the programme. The study focused on the 2003 - 2012 graduates of the Industrial Art programme in the Faculty of Art but included the current year group in their fourth year. The study was carried out to find out how the Metal Products Design, Textiles and Ceramics graduates fared or are faring as teachers at the different educational levels, even though the programme did not specifically train them to teach. The study identified 400 Industrial Art graduates through snowball sampling. Of the 400 that were identified, 152 were in the teaching profession and 64 had left the profession. These graduates had majored in Textiles, Ceramics and Metal Products Design. Of the 216 Art graduates who served as study respondents and from whom data were solicited through interviews,



questionnaire administration and classroom observation, 124 (57%) were males and 92 (43%) were females.

The study found more Art graduates in the teaching field as compared to the Art Industry in Ghana. This implies that a significant number of graduates from the Industrial Art Department (IAD) end up as teachers either temporarily or permanently. Art graduates end up in the teaching profession for reasons such as fulfilling the mandatory National Service Scheme which places personnel in educational institutions and limited job opportunities in the Art Industry especially for students who are Metals and Ceramics majors. Other reasons are interest in the teaching profession, passion for teaching and the job security and flexibility that the teaching profession offers. However, not all of the graduates stay for long in the teaching field. Those who leave the profession usually do so within the first two years of work. This was associated with lack and or loss of interest in the profession, inability to overcome challenges in the profession, end of National Service contract, other job offers and personal reasons such as quitting for further education or travelling abroad.

It also came to light that the Industrial Art Graduate Teachers (IAGTs), although they are classified by Ghana Education Service as non-professional teachers, have knowledge that positively influences their productivity as teachers. The main teaching effectiveness trait (MET Project, 2013, 2014) identified is ‘Knowledge of subject content’ which was found to be the key strength of these Art graduates, having acquired four years specialized training in their major disciplines of Ceramics, Metals and Textiles. Majority of the respondents made statements relating to their command over the subjects they are assigned

to teach at the different levels of education. This was also evident in the interviews and the classroom observation as the graduates who teach Art related subjects or courses were outstanding in their command over the subjects they teach. The IAGTs were found to have other skills such as ‘preparing and planning lessons’ and ‘delivery of lesson’ that the graduates easily picked up from their experience in the classroom. Although they are classified as non-professional teachers, not all of them were given any pre-service training when they were employed as teachers; the IAGTs are left to work with the knowledge and skills they had acquired from their respective educational studies, in this case, the Industrial Art disciplines of Ceramics, Metals and Textiles degree programmes in Art. The major challenge identified with the IAGTs centred on student management and identifying their students’ learning needs.

Evidence derived from the classroom observation revealed that majority of the IAGTs exhibit confidence and professionalism on the job and are able to achieve effective teaching that induces effective learning among their students. The students of the Art Graduates who were observed also generally rated their teachers as being very good in performing their duties. This finding was substantiated by the colleague teachers of the observed Industrial Art Graduate Teachers (IAGTs) who also agreed that the graduates were up to the task. When the IAGTs’ belief that graduates of the Industrial Art Department could become efficient teachers was compared with the perceptions of the final year students of the department, some critical issues were raised. It was discerned that contrary to the final year students’ perception that it is possible for any university graduate to teach effectively with the knowledge acquired in a particular subject they are assigned to teach. On this issue, the

IAGTs who are or had been in the teaching field said knowledge in a subject matter is essential but not enough for teaching it; to them, effective teaching requires additional skills such as in managing teaching, managing students, and managing learning.

## **5.2 CONCLUSIONS**

There are indeed Art graduates who have taken up teaching as Analysis of the Industrial Art curriculum and comments made by the study respondents suggest that there is not much education on career guidance for Industrial Art students especially, for those in the Ceramics and Metal's Product Design sections which consequently affect their choice of career. Based on the analysis of the findings of this study, the following conclusions have been made:

1. There are indeed Art graduate serving as non-professional teachers with the Ghana Education Service in public and private institutions. These Art graduates, although influenced by different factors into joining the teaching profession such as desire to teach, compelled to teach or need for a job, they exhibit similar characteristic features which can be categorised into four groups:
  - a. Those who want to teach and practise Art.
  - b. Those who want to practice Art but are teaching instead.
  - c. Those who just want to teach.
  - d. Those who just need a job and have found one in teaching.

Regardless of their reasons for joining the profession, the fact remains that they are expected to perform just like the trained teachers, if not better than them, in ensuring effective teaching and learning.

2. The Industrial Art Graduate Teachers, although not trained to be teachers, have knowledge and skills as intellectuals which improves their productivity as teachers. The main trait that was identified as the key factor for this assertion is ‘Content Knowledge’. It was identified that most of them especially those teaching Art related course had this advantage. The major challenges of these graduates were identified as management of students and teaching to cater for students’ learning needs. Hence, those who intend to become teachers or end up as teachers mostly use a ‘trial and error’ technique to facilitate their teaching task, until they are able to gain enough experience to enhance their working skills or are able to further their education.
3. Based on this case study it can be ascertained that most of the Art graduates are successfully engaged in teaching in terms of imparting knowledge to their students but there is still room for improvement as the role of the teacher goes beyond the subjects they teach. The implication of these findings is that although Industrial Art graduates are successfully engaged in teaching at the various levels of education in Ghana, they need pre-training as well as continuous training to improve upon their effectiveness in the classroom.

### **5.3 RECOMMENDATIONS**

The following recommendations are made:

1. Although there are Art graduates with genuine reasons for joining the teaching profession, many of them just settled for teaching and jobs they found favourable without

any considerations for their interests or skills. It is therefore recommended that organised and centralised measures should be put in place to educate and assist students of the KNUST Industrial Art Department to choose careers they love and are skilled in to enable them to find jobs for which their knowledge and skills would make them most efficient and effective.

2. Considering that a significant number of graduates (216 out of 400 respondents) of the Industrial Art Department of KNUST ended up in the teaching profession and are contributing significantly to ensuring effective teaching and learning in the schools and tertiary institutions, it is recommended that an aspect of teacher training with respect to pedagogy be incorporated into the Industrial Art curriculum to equip graduates who find themselves in the teaching field with the vital skills they need to ensure effective management of teaching and learning.

Having professional artists teaching Art at the various levels of education will definitely yield positive results for the production of more successful Art students. In this respect, an Interdisciplinary Curriculum that involves the study of Art and knowledge of teaching methodologies is suggested. This will involve an intermingling of Art curriculum and Teacher training curriculum where methodologies and essential components from the two curricula such as topics and exercises can be blended and made more meaningful to the students from an angle of studying Art and teaching of Art.

This course could be offered through an alliance between the Industrial Art Department and the Art Education Department in Faculty of Art as a supplementary curriculum that is

aimed specifically at addressing common challenges that non-professional Art graduates in the teaching field encounter. The course could be integrated in the VC's Initiative Elective course schedule; named Art Teaching Techniques (ATT) for example.

3. The researcher will discuss the details of this study with the Department of General Art Studies in KNUST which offers Introduction to Art Education and collaborate with the lecturers who teach this course to organise periodic seminars for the IAGTs on the field and also interested final year students to equip the new graduates and those in the field with basic knowledge and skills in teaching so they can perform well in the classroom.

Since the study revealed that management of students and teaching to meet students' learning needs is a major challenge for the IAGTs, the seminars should include information on learning styles and teaching strategies that effectively address efficient learning in the classroom. This will improve both teaching and learning at all levels of Ghanaian education.

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## APPENDIX 1

### GRADUATE ARTISTS IN THE CLASSROOM: THE STATE OF NON-PROFESSIONAL ART GRADUATE TEACHERS IN GHANA

Questionnaire for 2012-2013 Final-Year students

Tick (✓) the appropriate column and fill in the spaces provided

1. Gender: Male [ ] Female [ ]
2. Section: Metals [ ] Textiles [ ] Ceramics [ ]
3. How did you get into the Industrial Art Programme? I chose to study the programme [ ] I was assigned by the authority [ ]
4. In your option, what are some of the career opportunities that the Major you are specialising in offers?  
.....  
.....
5. What careers are you considering after university?  
.....  
.....
6. Is teaching a career you might consider? Yes [ ] No [ ].
7. Please state the reason for your answer.  
.....  
.....
8. Do you know any alumni of the department who has been or is still in the teaching profession? Yes [ ] No [ ].

9. Is there any part of the curriculum that equips/prepare you as a student to be able to teach Art or any other subject? Yes [ ] No [ ].

10. If Yes, please Specify:

.....  
.....

11. Assuming you find yourself in the teaching profession, do you feel equipped to teach and manage your students effectively? Yes [ ] No [ ].

12. Do you have any professional Teacher Training certificate? Yes [ ] No [ ].

13. Have you ever had any teaching experience? Yes [ ] No [ ].

14. Do you believe Art graduates can be an efficient teacher even without teacher training? Yes [ ] No [ ]

15. Please state the reason for your answer.

.....

## APPENDIX 2

**GRADUATE ARTISTS IN THE CLASSROOM: THE STATE OF NON-  
PROFESSIONAL ART GRADUATE TEACHERS IN GHANA**

**Questionnaire for Industrial Art Graduate Teachers**

*Please tick [✓] the appropriate column or write in the blank spaces where required.*

1. Gender: Male [ ] Female [ ]
2. Age Group: Below 30 [ ] 30- 39 [ ] 40-49 [ ] Above 50 [ ]
3. Please state the year you graduated from the Industrial Art Programme:  
.....
4. Please state the Section graduated from: Ceramics [ ] Metals [ ] Textiles [ ]
5. What is your highest academic qualification?  
.....
6. Indicate the category of School you are teaching in or taught in after the Industrial Art Programme:
  - a) Public School [ ] Private [ ] others (please specify).....
  - b) Primary School [ ] Junior High School [ ] Senior High School [ ]  
Tertiary [ ] Please Specify: .....
  - c) National Service [ ] Part-time [ ] Full-time staff [ ]  
Others.....
7. How long did you/ have you been teaching?  
.....

8. Did you consider teaching as a prospective career before completing the BA Industrial Art Programme? Yes [ ] No [ ]
9. What are/were your reasons for going into the teaching profession?  
.....  
.....
10. Did you have any teaching experience prior to teaching after your BA Industrial Art degree? Yes [ ] No [ ]. If yes, please specify: .....  
.....
11. Did you have any professional teacher certificate prior to teaching after your BA Industrial Art programme? Yes [ ] No [ ]. If yes, please specify:  
.....
12. Do you at the moment have any teacher certificate? Yes [ ] No [ ] If yes, please state the qualification and how long you taught before acquiring it:  
.....  
.....
13. Were you given any in-service training when you started teaching? Yes [ ] No [ ]
14. What subject(s) do/ did you teach?  
.....  
.....
15. Did the knowledge and skills acquired from the Industrial Art programme studied have any direct influence in the following areas of your duties:
- a) Knowledge in subject content? Yes [ ] No [ ]
- b) Preparing and planning your lessons? Yes [ ] No [ ]

- c) Delivery of lessons? Yes [ ☐ ] No [ ☐ ]
- d) Classroom/ students management? Yes [ ☐ ] No [ ☐ ]
- e) Assessing students? Yes [ ☐ ] No [ ☐ ]
- f) Evaluation and revision? Yes [ ☐ ] No [ ☐ ]

16. What were the challenges you encountered in performing your teaching task effectively?

.....

.....

17. What are the challenges you encountered in performing your teaching task effectively?

.....

.....

18. Do you believe University graduates can teach effectively even without the formal teacher training? Yes [ ☐ ] No [ ☐ ]

19. How do you think the Industrial Art curriculum can be modified to help graduates who would want to go into the teaching profession?

### **APPENDIX 3**

#### **INTERVIEW GUIDE FOR INDUSTRIAL ART GRADUATE TEACHERS**

1. Age Group: Below 30 [ ☐ ] 30- 39 [ ☐ ] 40-49 [ ☐ ] Above 50 [ ☐ ]

2. Which year did you graduate from the Industrial Art Programme?
3. What section did you graduated from?
4. What is your highest academic qualification?
5. Please specify which of the follow categories that describes the school you taught in after the industrial Art programme:
  - a. Public School or Private School?
  - b. Basic School, Senior High School or Tertiary?
  - c. National Service, Part-time or Full-time staff?
6. How long did you/ have you been teaching?
7. Did you consider teaching as a prospective career before completing the BA Industrial Art Programme?
8. What are/were your reasons for going into the teaching profession?
9. Did you have any teaching experience prior to teaching after your BA Industrial Art degree?
10. Did you have any professional teacher certificate prior to teaching after your BA Industrial Art programme?
11. Do you at the moment have any teacher certificate?
12. Were you given any in-service training when you started teaching?
13. Did the knowledge and skills acquired from the Industrial Art programme studied have any direct influence in the following areas of your duties:
  - a. Knowledge in subject content?

- b. Preparing and planning your lessons?
- c. Delivery of lessons?
- d. Classroom/ students management?
- e. Assessing students?
- f. Evaluation and revision?

14. What were the challenges you encountered in performing your teaching task effectively?

15. What are the challenges you encountered in performing your teaching task effectively?

16. Do you believe University graduates can teach effectively even without the formal teacher training?

17. How do you think the Industrial Art curriculum can be modified to help graduates who would want to go into the teaching profession?

#### **APPENDIX 4**

#### **INTERVIEW GUIDE FOR HEADS OF DEPARTMENT/COLLEAGUES OF THE INDUSTRIAL ART GRADUATE TEACHERS**

1. How long have you known the IAGT?
2. How would you describe your relationship with him/ her?
3. How would you describe the relationship between him/her and the other staffs in this school?
4. How would you describe his/her relationship with his/ her students?
5. What is his/her attitude towards work and performing his/her duties as a teacher?
6. Have you sat in any of his/her lessons before?
7. Between scales of five, where the least is ‘poor’ and the highest is ‘excellent’, how would you grade her as an efficient teacher? Poor [ ] Average [ ] Good [ ] Very good [ ] Excellent

## **APPENDIX 5**

### **GRADUATE ARTISTS IN THE CLASSROOM: THE STATE OF NON- PROFESSIONAL ART GRADUATE TEACHERS IN GHANA**



## Classroom Observation Guide

### Teacher's Personal Information

**Gender:** Male [ ] Female [ ]

**Age Group:** Below 30 [ ] 31- 49 [ ] 49-50 [ ] Above 50 [ ]

**Year of Graduation:** .....

**Section:** Ceramics [ ] Metals [ ] Textiles [ ]

**Highest academic qualification of the teacher**

.....

**Categories of School teaching in:**

a) Public School [ ] Private [ ]

b) Primary [ ] Junior High [ ] Senior High School [ ]

c) National Service [ ] part-time [ ] full-time staff [ ]

### Observation Checklist

Respond to each statement using the following scale: Not observed=0, Poorly Practiced=

1, Averagely Practiced= 2, Well executed =3

Activities observed	Not observed	Poorly practice	Averagely practice	Well executed
Preparing and planning lessons				
Arrives early for lesson				

Use of lesson notes				
Related lesson to previous/future lessons				
Summarized major points of the lesson				
Presented overview of lesson				
<i><b>Total</b></i>				
<b>Delivery</b>				
Presented topics in logical sequence				
Defined unfamiliar terms, concepts, and principles				
Used good examples to clarify points				
Emphasized important points.				
Paced lesson appropriately				
Writes key terms on blackboard or overhead screen				
Integrates teaching and learning materials				
<i><b>Total</b></i>				
<b>Classroom and students' learning management</b>				
Actively encouraged student questions				
Exhibited patience for students to answer questions				

Listened carefully to student questions				
Restated questions and answers when necessary				
Presented material at an appropriate level for students				
The lesson allowed for a variety of learning styles				
Demonstrates respect for diversity and requires similar respect in classroom				
<i><b>Total</b></i>				
<b>Content Knowledge</b>				
Explained major/minor points with clarity				
Varied explanations for complex or difficult material				
Responded appropriately to student questions				
Demonstrated command over topic				
<i><b>Total</b></i>				
<b>Assessment</b>				

Checked previous assignment				
Asked questions to monitor student understanding				
Gave class exercises				
Gave assignment				
<i><b>Total</b></i>				
<b>Overall score effectiveness of teacher</b>				

## APPENDIX 6

### GRADUATE ARTISTS IN THE CLASSROOM: THE STATE OF NON- PROFESSIONAL ART GRADUATE TEACHERS IN GHANA

Please check the box you agree with under the scale from ‘poor’ to ‘excellent’.

#### Questionnaire Students Survey

<b>Preparing and planning lessons</b>					
<b>Activities observed</b>	<b>Poor</b>	<b>Average</b>	<b>Good</b>	<b>Very Good</b>	<b>Excellent</b>
My teacher arrives early for lesson					
My teacher has notes he/she refers to during lessons					
My teacher relates lesson to previous/future lessons when teaching					
My teacher presents overview of the lesson before he starts teaching					
<b>Delivery</b>					
The way my teacher presents the points helps me to understand the lessons					
My teacher defines unfamiliar terms, concepts, and principles					
My teacher gives good examples to make me understand clearly					
My teacher emphasises important points					
My teacher take s his/her time to teach us					
My teacher writes key terms on blackboard for us to see					

My teacher uses physical objects (teaching and learning materials) to demonstrate theories.					
My teacher summarises major points of the lesson when teaching					
<b>Classroom and students' learning management</b>					
My teacher always encourages us to ask questions in class					
My teacher waits patiently for students to answer questions					
My teacher pays attention when a student is asking questions					
My teacher restates questions and answers when necessary					
My teacher knows when I am not paying attention					
My teacher makes difficult topics easy to understand					
The lesson allowed for a variety of learning styles					

My teacher shows respect for respect for diversity and requires similar respect in classroom					
<b>Content Knowledge</b>					
My teacher explains major/minor points with clarity					
My teacher uses many examples to explanation complex questions					
My teacher is able to answer our questions well					
My teacher knowledgeable					
<b>Assessment</b>					
My teacher ask us a lot of questions when teaching					
My teacher gives us class exercises on every topic he/she teaches					
My teacher gives us homework					
My teacher always check and mark our class exercises and homework.					

## **APPENDIX 7**

**COLLEGE OF ART AND SOCIAL SCIENCES**

**INDUSTRIAL ART DEPARTMENT, SECTIONS COURSE OUTLINE**



The courses outline for the Industrial Art Sections, (excluding the core subjects)  
reproduced from the Industrial Art website field notes and CASS handbook:

## **METAL SECTION (YEAR 2- 4)**

### **1. Drawing ( IAM 257, 258, 357,**

Drawing is a three semester course that focuses on the study of proportions and structures of human figures, metal ware and jewellery and the study of emphasis drawing and colour rendering.

### **2. Technical drawing ( IAM 259)**

Technical Drawing is deals with the use of drawing instruments and materials, solid and plane geometry, isometric and orthographic projects, sectioning and dimensioning. This course is for one semester.

### **3. Design and Modelling ( IAM 251, 253, IAM 252, 254, 351, 452)**

The Design aspects of the course involves in visual organization in natural and manmade environment, design principles and interpretation and translation of ideas into two dimensional designs and sketches and then into three dimensional models using the appropriate techniques and materials.

### **4. Fabrication and finishing (IAM 255, IAM 256, 353, 454)**

It involves the preparation of metals and execution of modelled concept in metal using fabrication techniques such as piercing, chasing, embossing and forging and giving the produced metal piece a prefect finish.

### **5. Metallurgy (IAM 261, 262)**

Metallurgy involves the study of mineral dressing, extraction of gold, silver, copper, tin, lead, nickel and aluminum. Students are also taught physical, mechanical and chemical properties of silver, gold and platinum as well as alloys, crystal structures, solid solutions, critical temperatures and simple eutectics.

### **6. Metal Joining Processes ( IAM 263)**

The course deals with the study of Soldering and brazing alloys, fluxes and equipment and metal joining techniques such as soldering, brazing, welding and riveting.

### **7. History of Metals (IAM 265)**

History of Metals focuses on metal in civilization: the development and characteristics features of metal art in the ancient world.

### **8. Metal surface decorative and protective coating methods (IAM 264)**

The course covers Protective coating processes: fire tinning, amalgam gilding, electrolysis, copper, silver and gold plating salts and bath composition and electroplating.

### **9. Alloy calculation (IAM 355)**

Alloy calculation involves the study of alloying and alloy composition, calculation of alloying constituents in precious metals and their solders.

### **10. Assaying, refining and hall marking (IAM 359)**

Students are educated on gold and silver refining, identification of precious metals and their alloys and the hallmarking systems for silver, gold, platinum and imitation jewellery.

### **11. Enamelling (IAM 361)**

The subject dwells on types and composition of enamels, enameling equipment, tools and techniques, causes and correction of enamelling defects and Niello.

### **12. Metals casting methods (IAM 365)**

The course covers ferrous and non-ferrous metals, design, pattern making, moulding methods, materials and tools (including refractory materials and fuel), melting equipment, and casting processes.

### **13. Industrial Casting ( IAM 455)**

Industrial casting deals with the study of permanent and semi-permanent moulds and industrial techniques as such Die casting (equipment, alloys and their application), plaster moulding methods, vacuum and centrifugal casting processes.

### **14. Gemmology (IAM 459, 460)**

Gemmology delves into the formation of gemstones, world distribution of gemstones, characteristics and identification of gemstones

### **15. Gem setting ( IAM 457, 458)**

It involves the study of gem setting tools, its uses and fabrication of some basic tools. This subject also teaches students the design and fabrication of setting techniques including prongs, basket, cluster, crown and gypsy setting.

## **TEXTILES SECTION (YEAR 2- 4) COURSE OUTLINE**

### **1. Textile Materials (IAT 251)**

This subject deals with the summary of main routes in Textile Processing. That is the character and classification of fibres, yarn and fabrics, essential characteristics of textile fibres, fibre structure and properties of textile fibres.

## **2. Textile Design Methods (IAT 253)**

Textile Design Methods constitute the study of Design in Textiles, Element and Principles of Design, Materials and Sources of Motifs, Lettering and its application to Textiles.

## **3. Basic Fabric Structures (IAT 255)**

The course entails the study of Point paper design, Simple plain weaves, Classification of plain cloth, Variations of plain weaves, Colour and weaves effect and Analysis of woven fabrics.

## **4. Advance Fabric Structures ( IAT 471)**

Toilets; Pile fabrics, Terry pile structure, velvets, figured velveteen, double cloth, Gauze and Leno structures, Carpets.

## **5. Basic Weaving Methods ( IAT 259)**

The course covers the Classification of weaving machinery and Introduction to traditional weaving methods.

## **6. Introduction to Fashion Life Drawing ( IAT 259)**

Students are introduced to the Fundamental of drawing and developing figure through research as a basis for the creation of fashion design sketches. Studies in figure drawing, the ability to show differences in male, female and juvenile body builds.

## **7. Introduction to fashion Illustration ( IAT 261)**

Students are introduced to the Principles and practice of fashion illustration; Drawing from live model with emphasis on interpreting apparel details in relation to the body movements. Advance work in a sophisticated variety of media and techniques for production.

#### **8. African Art and Culture ( DAH 251, 351)**

The course focuses on the rites and passage in West African cultures: Art and Traditional Secret Societies in West African cultures, the Mask in West African Cultures, Art and ancestor veneration in African cultures. It also deals with Body Art and its significant in African Cultures, Art and the concept of the Soul in African Cultures, The African Artist in His Societies, Organisation in West African Cultures, Appreciation and Criticism of Pole and Round sculpture.

#### **9. Introduction to Dyeing and Printing (IAT 252)**

Students are introduced to the general theory of dyeing and printing, thickening agents, methods of dyeing and printing procedures.

#### **10. Printed Textile Designs ( IAT 254)**

Printed Textile Design entails motif development, arrangement of motifs, design repeat.

#### **11. Basic Weaving calculations ( IAT 256)**

The course covers calculating the weight of warp and weft; number of ends, length of warp, weight of cloth and the weight of colours in the wrap, Counting system, Resultant and average counts, Diameter of yarns, Twist and their relationship to counts.

#### **12. Introduction to yarn production ( IAT 258)**

The course constitutes Cotton –growth, types, qualities, preparation of cotton – pickling, ginning, baling, wool manufacture.

### **13. Introduction to method of drawing and fashion Drawing ( IAT 260)**

Introduces students to the basic draping used with flat pattern and free cutting: Fundamentals of pattern drafting, Introduction to costume design, Textile materials and their uses to modify and create effects.

### **14. History of European Art ( DAH 252)**

Renaissance and High renaissance Art and Artist; Mannerism, Baroque, Neo-Classicism, Break in Tradition, Impressionism, Neo-Impressionism, Post-impressionism, Art Appreciation and Criticism.

### **15. Textiles Design ( IAT 451, IAT 452)**

Border designs; pictorial designs and designs based on proverbs. Modification of existing designs and simulation of woven designs.

### **16. Textile Design and Colour ( IAT 351, IAT 352)**

Colour and colour symbolism, Application of colour, engineered design, furnishing and children wear.

### **17. Chemical Processing ( IAT 371)**

The course comprises of categories of inorganic compounds, water and water **purification**, oils, fat and waxes, Detergents; cleaning of the natural fibres, yarn and fabrics including desizing, scouring and bleaching; Fluorescents, whiting agents.

### **18. Natural Fibres (IAT 373)**

The course focuses on History, structure, production, geographical distribution, physical and chemical properties and uses of marketing of natural fibres.

#### **19. Cotton Spinning ( IAT 375)**

Cotton spinning involves blending, opening and cleaning, carding, combing, drawing (doubling and drafting), roving and spinning.

#### **20. Fabric Structure ( IAT 377)**

Satin and Sateen weaves, Crepe fabric, Huckaback, Honeycomb, Alhambra, patent sateen, Bedford cord and Pique weaves.

#### **21. History of fashion ( IAT 379)**

The History of fashion comprise of Development of the textile and fashion industry through the Industrial revolution to the 20th century, the textile and fashion Industry in Ghana before and after Independence.

#### **22. Dyeing and Dyeing process (IAT 372)**

History of dyes, General classification of dyes, auxiliaries and their application in dyeing and printing: Colour fastness in textile materials.

#### **23. Regenerated Fibres ( IAT 374)**

The course entails Introduction to manmade fibres, manmade fibre spinning methods. More also, Fibre modifications, the history, structure, production, chemical and physical properties and uses of generated fibres.

#### **24. Knitting Technology ( IAT 376)**

Introduction to warp and weft knotting needles, knitting cycles, knitting machines and mechanism, stitches, structures, systems and properties of knitted fabrics.

### **25. Clothing Construction (IAT 380)**

Construction, fitting and finishing of tailored garment: using various fabrics, trimmings and accessories for contemporary male, females, children's wear and furnishings.

### **26. Weaving Mechanism (IAT 382)**

Basic Weaving Mechanisms- the motion of the healds, slay and shuttle; timing and Synchronisation; Acceleration and deceleration of the shuttle; Automation and Controls (wrap protector motion, weft stop motion, warp stop motion, box motion; the take-up and let) off motions temples.

### **27. Textile Testing (IAT 473)**

The elements of statics, selection of samples, identification of textile fibres, Fibre length measurement, fibre fineness, moisture content, Maturity of cotton, Twist measurement, Crease recovery, Crimp, Shrinkage, Flammability.

### **28. Textile Printing (IAT 475)**

The introduction to Industrial fabric printing processes: semi-automatic and fully automatic screen printing, rotary screen printing, roller printing, duplex and wax printing, transfer printing, polychromatic printing.

### **29. Yarn Manufacture (IAT 477)**

The production of Novelty yarns, Textured yarns, Break or Open-end spinning, Tow-to-top, Self-Twist spinning, Fibre blend – mixtures and combination, Yarn classification.



### **30. Fashion Draping ( IAT 481, IAT 482)**

Studies of the characteristics and drapability of fabrics and how they affect the development of silhouette and clothing design

### **31. Weaving Mechanism ( IAT 472)**

Shedding mechanisms: Tappet shedding, Dobby shedding, Jacquard shedding, Rapier weaving, Projectile weaving, Jet weaving, continuous weft insertion and weft replenishment, Problems of the loom.

### **32. Synthetic Fibre spinning (IAT 474)**

It entails history, Production, structure, physical and chemical properties and uses of the synthetic fibres.

### **33. Non-woven fabrics( IAT 476)**

Methods of web preparation, web consolidation, finishing, properties and uses of non-woven fabrics.

### **34. Textile finishing IAT 478)**

Textile finishing deals with Drying of Textile fabrics and Lustre finishing processes like calendaring, mercerisation, beetling, raising, brushing and shearing. It also covers Crease resistant finishes, Shrink resistant finishing, Water repellent finishes, Fireproofing, Mothproofing.

### **35. Management and Entrepreneurial skills ( IAT 479, IAT 480)**

It entails the study of Management, Economics, Market Research, advertising, market segmentation, product life cycles, consumer behaviour, consumer motivation in textiles and fashion, marketing principles of fashion- cultism in fashion.

## **CERAMICS SECTION (YEAR 2- 4)**

### **1. Introduction to ceramics (IAC 251)**

The course introduces beginning students to handle clay or clay bodies through various techniques of ceramic fabrication in hand building and wheel forming.

### **2. Introduction to Design Techniques ( IAC 253, IAC 256)**

Introduces students to Design Theory, Principles and Elements of Design, Creative Concept, Forms and Functions and Drawing

### **3. Traditional Ghanaian Pottery ( IAC 255)**

It delves into the Historical development of Pottery and Ceramics, Traditional Ceramic Development trends in Ghana, Traditional Ceramics development/awareness of the Ghanaian and Techniques for improvement in the traditional pottery.

### **4. Ceramic Raw Material (IAC 259, IAC 254)**

The course constitutes Geologic origin of ceramic raw material, Introduction to silicate chemistry and crystal structure of raw materials, Raw materials evaluation and characterisation, Fluxing minerals, properties and uses Refractory oxides and classification of raw materials for ceramic uses.

### **5. Introductory Chemistry (IAC 261)**

It is centres on Atomic structure, bonding in solids- Molecular Ionic, Covalent, Metallic and Van de Waal's bonding, Crystal structure- The principal Types of Unit Cell Space lattice.

## **6. African Art and Culture (DAH 251)**

The Rite of passage in West African cultures, Art and Traditional Secret Societies in West African Cultures, The Mask in West African Culture, Art and Ancestor Veneration in African Culture.

## **7. Introduction to Studio Ceramics ( IAC 252)**

Theoretical instruction of form and function, Aspects of ceramic forming techniques, throwing of cylindrical and other forms, hand building, throwing, casting pressing/press mould jollying, Development of various techniques in studio pottery including modelling of free forms.

## **8. Oriental and Classical Ceramic History (IAC 258)**

It delves into the Development of ceramics from Archaic period to China Dynasty in China -1500BC-1800AC, Classical Greek pottery from 700BC-300AD, Roman pottery from 1st AD to 3rd AD, Japanese pottery from 300AD-1900AD.

## **9. Technical Drawing (IAC 260)**

The course covers the study of Instruments and their uses, Geometry and its application, Isometric drawing, Fundamental concepts of perspective drawing, drawing of sectional view, freehand sketching

## **10. Ceramic Processing methods (IAC 262)**

The study of General processing techniques, Introduction to clay water relations; the use of binders and additives, Effect of heat on ceramics, Granulation and communication, Solid state reactions, sintering and crystallization, stability of glasses and glazes in relation to structure and Ceramic colorants.

### **11. History of European Art (DAD 252)**

It entails the study of Renaissance and High renaissance Art and Artist, Mannerism, Baroque, Neo-Classicism, Break in Tradition, Impressionism, Neo-Impressionism, Post-impressionism, Art Appreciation and Criticism.

### **12. Wheel and Hand Forming Techniques ( IAC 351)**

Students are trained in throwing of tall cylindrical forms with different lids, Hand building of functional forms, Decorative techniques on murals and monumental forms Designing and modelling of ceramics sculpture. Fountains manufacture, tiles and dies or extrusion and Production utilitarian wares.

### **13. Contemporary Ceramics ( IAC 353)**

Involves the study into theory of ceramic design form and decoration, Contemporary ceramic designing. Design media, glazing techniques, Individual application of design to forms.

### **14. The Vitreous State ( IAC 355)**

The course entails Properties of glasses and enamels, Introduction to structural chemistry of glasses, Influence of chemical composition and physical properties, Glaze preparation and application.

### **15. Ceramic mould and cast Processes (IAC 357)**

Comprises the study of technology of plaster, Plaster and mould manufacture, Master mould, Case moulds and working/ production moulds, Mould maker's size Facing and sizing techniques.

#### **16. Ceramic Bodies (IAC 359)**

The course deals with Classification of ceramic bodies, composition of triaxial bodies using ternary diagrams, Influence of accessory minerals on composition of bodies, Calculation of mineral content in bodies and individual projects on body compositions.

#### **17. Ceramic Building Materials Technology (IAC 361, IAC 362, IAC IAC 458)**

A study into technology of Building Materials, Production of Bricks and Tiles, Outline of raw material, Raw material processing and assessment, Production methods, Granulation, Glazed Tiles, Materials and product analysis, Basic principles of all steps in the manufacture of Heavy clay products, clay roofing tiles, Bricks-Hollow, Solids floor tiles, Wall tiles, Raw Material evaluation. Engineering details and problems of Heavy Clay Industry Plant/ Factory

#### **18. Ceramics Design: Screen Printing ( IAC 354)**

Introduction to Printing processes, Intaglio, Letterpress, Screen and Lithography. As well as the use of Stencil and Screen Development, Direct and Indirect Screen Printing, Registration Process, Transfer Paper, Glass transfer, On glaze and under-glaze transfer, Cover coating process, Principle of form and function on screen, Porcelain enamel and screen printing, Methods of firing Ceramic inks and Using Local materials to produce.

#### **19. Kilns Design and construction ( IAC 358)**

The course comprise of Early and modern Kilns, Materials for kiln construction, Basic features of kilns, Design considerations, operation of Kilns, combustion Theory, Draft system, Kiln types/classification, Kiln volume and size of chimney, Oxidation and

redacting firing, Temperature measurement and control and Techniques for improvement of traditional Kiln.

### **20. Colloid chemistry in ceramics (IAC 360)**

The course involves Introduction to crystal chemistry, Co-ordination theory and crystal bonds, Morphology and crystal structure of clay minerals, Isomorphous substitution, Flocculation and deflocculating phenomena, Rheological properties of aqueous clay systems, Physico-chemical processes in slip casting, control and casting problems.

### **21. Ceramic Phase Equilibria ( IAC 364)**

The Study of Definition and significance of the phase rule parameters, Component systems.

### **22. Ceramic Process Analysis: Management ( IAC 455, IAC 450)**

Ceramics Process Analysis entails the Evaluation of ceramic development process, Income statement, Ceramics Industrial case study, Principle and practice of supervision, Industrial relations, entrepreneurship, planning small business.

### **23. Ceramics production ( IAC 451, IAC 452)**

Delve into Production of Various shapes on the potter's wheel, Designing and execution of murals, fountains and other functional forms for the exterior and interior decoration tiles of all kinds. Students also study Designing and Production of dinner sets, production of decorative ceramic piece for the garden, parks and building.

### **24. Refractory Technology ( IAC 457)**

It consist of Product and terms, Material preparation and manufacturing processes, Mortar s and cements, Fusion and abrasion, Thermal shock resistance, Creep, Heat flow calculations, Heat transmission, Ceramic Industries and furnace efficiency.

## **25. Kiln and furnace Technology (IAC 459, IAC 454)**

The study of Design factors of Kilns, development of high temperatures and problems of firing. Also delves into radiation Heat transfer, Resistance Induction and electric heating, Fuel and pyrometry.