

AN INVESTIGATION OF THE CAUSATIVE FACTORS UNDERPINNING STUDENTS' LOW ACADEMIC AND CAREER INTEREST IN CERAMICS IN THE KUMASI METROPOLIS

James Jerry Nuako¹, Isaac Kwabena Agyei², Lord Sam Addo-Danquah³, Joe Adu-Agyem⁴,
Kofi Adjei⁵

Department of Educational Innovations, Kwame Nkrumah University of Science and Technology,
Kumasi, Ghana^{1, 4}

Department of Industrial Art, Faculty of Art, CABE, Kwame Nkrumah University of Science and
Technology, Kumasi, Ghana^{2, 5}

Department of Educational Innovations, Kibi Presbyterian College of Education, Ghana³

Correspondence: ikegyei@gmail.com

Abstract

Type the English abstract here. Fill abstract or abstract using Times New Roman 11. Abstract The study investigated the causative factors that underpin students' low academic and career interest in ceramics in the Kumasi Metropolis. Three schools made up of one mixed-gender, one all-boys and one all-girls were selected for this study. The study adopted the mixed-methods approach of QUAN+Qual to carry out with its enquiries. Concurrent triangulation of data using questionnaires, interviews, and observation were employed. Participants in the study totaled 273, which consisted of 217 students, 45 teachers, 2 school heads and 9 parents. Four Likert scale-type questionnaires were designed to collect data from the students and teachers. Also, structured interview sessions were held for the school heads and the parents. Frequency and percentage were employed as descriptive statistical tools for analyzing the data collected from the questionnaire and interviews. SPSS v24 and excel spread sheet application facilitated the analysis. The result of the study showed that the Ceramics programme is less prioritized in the majority of the senior high schools, as it was discovered from the investigation that only one of the three schools had a studio facility to enhance teaching and learning. Meanwhile, the study found that the perceptions that there is a low employment opportunity in Ceramics as well as Ceramics being a subject for the low intelligent student were seen as contributing factors to students' low interest in Ceramics. The study also found that other factors such as scarcity of ceramics text books, the difficulty in obtaining clay for practical activities etc.

Keywords: Causative factors, Ceramics, Kumasi metropolis, low academic, low career, Interest, Investigation.

INTRODUCTION

From the past till date, Ceramics products commonly referred to as pottery are used for storage purposes, funerary vestiges, cooking and sanitary. Modern Ceramics have advanced from the conservative definitions of Ceramics. For example, modern materials science ceramics have been developed from combinations of clay minerals and clay fused with other metallic materials to offer variations of properties such as durability, electrical conductivity, high heat resistance etc., for various purposes. Rapid advancements in advanced ceramic processing have led to a revolution in the types of materials and qualities that can be produced (Mason, 2016). Today, a wide variety of materials developed for use in modern ceramic engineering, such as semiconductors, as well as objects for the home, electronics, business, and architecture are made of Ceramics (Subedi, 2013).

In Ghana, Ceramics is a discipline that begins at the senior high school (SHS). Even though there are significant number of public and private universities across the country, only a small number of them continue this crucial subject. The SHS is the level in the educational ladder between Junior High School (JHS) and Tertiary. It is the level of education that prepares students who are predominantly teenagers for adult life, higher education and career pathways. At the SHS, Ceramics form part of the eight (8) specialized subjects that make up the Visual Arts course. These 8 subjects include; Sculpture, Ceramics, Graphics Design, Picture Making, Jewellery, Textiles and Basketry (Evans-Solomon, 2004; Asihene as cited by Evans-Solomon and Opoku-Asare, 2011). Owusu Afriyie (2019) identified that the choice to offer any of the elective subjects is largely dependent on the school where a student enrolls.

The intent of Ghanaian education, which is to produce persons who are dexterous enough to play an effective role in the economic and technological growth and development of the nation, sits well with the reason that informed the introduction of the Ceramics subject. The teaching syllabus for Ceramics (2010), situated the rationale for the introduction of Ceramics into the SHS curriculum on the fact that Ceramics has far-reaching impacts on education, health and communication, as well as the total lifestyle of societies across the nation.

Okonkwo (2014), argued that Ceramics education is vital, and a nation can rely on it as an instrument of change to promote development. He further posited that Ceramics is one of the few subjects in our educational curriculum that gives trainees (students) the chance to develop the necessary mental and physical skills and talents to survive and contribute to the growth of society. However, African countries including Ghana has not regarded and promoted Ceramics as a priority subject that could help train people to contribute to the nation's socioeconomic development, cognizant of the abundance of clay reserves across the country as well as the growing demands for Ceramics products such as tiles, abrasives sanitary wares and glass.

Paradoxically, Ghana has an abundance of clay but has not capitalized on it for its socio-economic development compared with countries like China, which developed significantly with ceramic arts. Ceramics appears to have received little patronage in the landscape of Art education over the years, which could be linked to the lack of support for struggling small-scale Ceramic businesses across the country. According to Asante-Kyei (2019), Ghana's ceramic industry is constantly crumbling, which poses a threat to the economic livelihood of lots of artisans. Although Ghana prioritized ceramic education and production as part of its industrialization programme from 1957 until the 1980s and 1990s, Ceramics activities have been sporadic to this day (Asante-Kyei, 2019).

The staggering Ceramics activities over the years has caused Ceramics to suffer even within the art education landscape. As such, Session (1999) contended that Ceramics education is marginalized within the field of art education. He emphasized that the problem is due to the failure of the Ceramics field to fervently articulated its educational potential to the public. It seems that much has not been done to salvage the continuous waning growth

of Ceramics education in Ghana while Americans, Europeans, and Asians advance in Ceramics research.

The relegation of Ceramics education to the peripheral is evident in the way the SHS art education is organized in schools. For instance, the study conducted by Nortey, Opoku-Amankwa, and Bodjawah (2013) revealed that an overwhelming majority of senior high schools across the country, including the most prestigious ones, do not offer Ceramics. Meanwhile almost all the senior high schools offer visual arts course. For example, the Kumasi Metropolitan District has the most senior high schools in the Ashanti Region, with roughly twenty-one (21), and the most schools that offer Ceramics, with six (6), or 29%. Because a considerable number of schools do not offer Ceramics, many potential students are barred from pursuing academics and a career in Ceramics from the start. As such, as they grow or get to the tertiaries, there is little or no chance for them to pursue Ceramics. This clearly explains the wide gap that exists in the study of Ceramics and the lack of prioritization. Prioritizing Ceramics education is one surest way the country could capitalize on its abundant clay raw material for its own socioeconomic advantage.

Nonetheless, there is a paucity of study to establish how Ceramics is organized in the senior high schools. Also, the causal reasons why many schools do not offer Ceramics as part of the Visual Arts course is unknown. This study delved in to the factors that are militating against the academic and career interest in Ceramics among senior high schools within the Kumasi Metropolis that are offering Ceramics.

LITERATURE REVIEW

Definition, History, and Development of Ceramics

The word Ceramics is derived from the Greek word “keramos” which describes “potters clay” “potters earth” or “pottery” (Shabalin, 2015). According to Heimann (2010), Ceramics encompasses a variety of hard, brittle, heat- and corrosion-resistant materials produced by shaping and then heating an inorganic, non-metallic substance like clay to a high temperature. Traditional definitions of Ceramics include inorganic, non-metallic solids made from powdered materials that are heated to form products and exhibit traits that include brittleness, low electrical conductivity, hardness, and strength (Mason, 2016). According to W. D. Kingery, as cited by Shabalin (2015), Ceramics is the art and science of creating and using solid objects that contain inorganic non-metallic materials as their primary component which make up a significant portion of their overall composition.

Subedi (2013) explained that Ceramics is any inorganic, crystalline material that is composed of both metal and non-metal. According to Subedi, Ceramics are physically solid, stable, brittle, rigid, and strong when compressed. Although ceramic materials are weak and shear under tension, she explained that they have properties that make them resist chemical erosion from acid or base. In general, Ceramics can tolerate very high temperatures, such as those between 1,000 and 1,600 °C. Nearly since the beginning of time, Ceramics have been a form of art. The earliest Ceramics made by mankind were bisque-fired clay figurines or pottery (pots or vessels). The earliest pottery, which was fired in furnaces at temperatures as

high as 800°C, was considered to have been made by combining clay and animal by-products. Even though actual pottery fragments as old as 19,000 years have been found, regular pottery did not begin to spread until about ten thousand years later (Wiki 2022).

According to Mason (2016), primitive wood and stone tools were probably sharpened using naturally occurring abrasives, and pieces of practical clay pots belonging to the neolithic period, or about 10,000 years ago, has also been discovered. Masson posited that after the first simple clay vessels were created, people discovered how to burn clay to make it tougher, stronger, and less permeable to liquids. Also, Mason asserted that brick and tile were among the structural clay items that were developed by ancient men. Bricks made of clay that were reinforced and hardened with fibers like straw were among the first composite materials. Ceramics was also extensively used for artistic purposes, particularly in China, the Middle East, and the America.

Later, glassy, amorphous ceramic coatings were applied over the crystalline clay surfaces in glazing and firing to minimize porosity, creating smooth, vibrant surfaces (Carter and Norton 2007). Since at least 26,000 years ago, it appears that humans have been producing their Ceramics by applying extreme heat to clay and silica to fuse and create ceramic materials. The first discovered to date were sculpted figures, not disheveled artifacts, found in southern central Europe.

Archaeological discoveries have provided us with a general understanding of ancient people going back into prehistoric times. Because Ceramics has a long history, it was nearly ubiquitous in most sedentary communities because of its durability. Orton and Hughes (2013), stated that Ceramics have frequently been discovered in extremely large amounts from archaeological sites. It is believed that ceramic things were used to store objects, both solid and liquid, and also served other purposes. According to Geiger (2017), it is believed that practical ceramic containers were first used around 9,000 BC. Most likely, grain and other foods were held and stored in these jars. production in ancient times, which peaked in Upper Egypt around 8,000 BC, is assumed to be intimately tied to the fabrication of ancient glass.

According to Shabalin (2015), the term Ceramics was not used until the middle of the 20th century to describe inorganic, nonmetallic materials that were formed by the action of heat. The most significant of these were the conventional clays, which were used to make pottery, bricks, tiles, and other items of a similar nature, as well as cement and glass. The main raw material for Ceramics is clay and is abundant naturally in many places of the world including Ghana.

Clay is a fine-grained natural soil material with clay minerals. Because of its rich molecular water, clay is malleable when wet to form any desirable vessel. But after drying and firing they become hard, brittle, and non-plastic (Breuer 2012). Ceramics typically begin with a clay-based material that is excavated from the earth, combined with water to make it soft and malleable, and sometimes with the addition of other materials. The mixture is then pressed into shape and heated to a high temperature in a sizable industrial oven called a kiln (Woodford, 2022).

Perhaps clay's plasticity when wet and its capacity to harden when dried and subsequent firing, makes it a good material for wide range of applications. From the past till date, Ceramics products commonly referred to as pottery are used for storage purposes, funerary vestiges, cooking and sanitary. Modern Ceramics have advanced from the conservative definitions of Ceramics. For example, modern material science Ceramics has been developed either from combinations of clay minerals and clay fused with other metallic materials that are able to offer variations of properties such as durability, electrical conductivity, high heat resistance etc., for various purposes. Rapid advancements in advanced ceramic processing have led to a revolution in the types of materials and qualities that can be produced (Mason, 2016). Today, a wide variety of materials developed for use in modern ceramic engineering, such as semiconductors, as well as objects for the home, electronics, business, and architecture are made of Ceramics (Subedi, 2013).

A Synopsis of Ceramics History

Ceramics products have frequently been used for purposes that are now better understood thanks to archaeological discoveries. Also, carbon dating of excavated ancient artefacts gives us a glimpse of times these artifacts were produced and used. These offer a window into the past. According to Woodford (2020), the following timeline gives some historical context for Ceramics:

- The first known use of human Ceramics dates back to between 23,000 and 25,000 BCE and includes, among other things, porcelain figurines of people and other animals found in Doln Vstonice, Czech Republic.
- India and Mesopotamia started producing ceramic tiles around 14,000 BCE.
- Pottery vessels were first used between 18,000 and 14,000 BCE (for example, in Jiangxi, China).
- Mud bricks were first used around 6500 BCE.
- The oldest known kiln dates to 6000 BCE (Yarim Tepe site in modern Iraq)
- Around 5000–8000 BCE: Glazes were first used. Egypt's Nile Valley.
- Glass was first used between 350 and 5000 BCE (according to Eric Le Bourhis in Glass: Mechanics and Technology).
- Potter's wheel invention, 3500–2500 BCE.
- Effective glass and ceramic insulators for telegraphs and the delivery of electricity were developed in the middle to late 1900s.
- Ferrite magnets were developed in the 1940s for use in electric motors and loudspeakers, among other things.
- A high-temperature superconductor was found in 1986 by IBM scientists Georg Bednorz and K. Alex Müller.

Traditional Ceramics: Its Historical Significance in Ghana

Production of Ceramics is an old practice that has played a significant role in the Ghanaian culture. Even though the birth of pottery is lost in antiquity, archaeological

discoveries allude to the fact that pottery was practiced and was one of the productive things of the ancient Ghanaians. According to Nyarkoh (1975), pottery was included in the merchandise of the trans-Saharan trade that Ghana was involved.

According to Nyarkoh, people who relocated southward into the forest belt participated in widespread pottery making in addition to other crafts before the Ghana empire collapsed. Nyarkoh maintained that clay, the primary raw material for pottery, was in abundance and easily accessible wherever the people resided. Archaeological excavations have uncovered numerous pottery pieces that were undoubtedly used by the ancestors in various regions of modern Ghana. For instance, certain pots unearthed from Dawu are revealed to be dating back to 1450 A.D., (Ekem, 1970 cited in Nyarkoh, 1975). Also, well-preserved pottery, including bowls, cups, and water pots, was discovered in Asebu in 1957 as a result of archaeological discoveries. Nyarkoh also revealed other discoveries including those in Ahinsan, Kumasi, Fomena in Adansi North, Baafikrom in the northern part of Mankesim, and Techiman, where clay figurines were found in royal cemeteries. Also, the joint excavations carried out by the Department of Archeology at the University of Ghana and the Ghana National Museum, uncovered pots in Salaga, from the Northern area of Ghana, comprising painted and decorated objects of pottery (Nyarkoh, 1975).

Further, Nyarkoh also pointed to the archaeological and historical study done in the Volta Basin by the University of Ghana. According to him, toward the north bank of the Black Volta, is the town called Buipe, where pottery was discovered that was identified to have been created and used by the locals between 1400 and 800 B.C.

These results lend credence to the idea that pottery is a global, ancient practice that was also participated in by Ghanaians. These results also point out that pottery was one of the chief traditional crafts of the Ghanaian people. The pottery craft was a profitable industry that spanned the entire nation.

Selection of Students into Ceramics in the Senior High School

The selection of students into the senior high school Ceramics under the Visual Art umbrella is largely based on the BECE performance of the respective students. Students do not get to choose whether they will do Ceramics or not. However, it is only when a student chooses and is enrolled in Visual Art course, that he or she gets the chance to study Ceramics. Azaglo et al., (2021) revealed that students make selections utilizing the Computerized School Selection and Placement System (CSSPS), which enrolls students in senior high school based on their selected schools and programmes.

Programmes that appear on the CSSPS are the general programmes or departmental courses such as Visual Art, General Art, General Science, Business, Home Economics, etc. Invariably, all the departments have subject specialties, hence, schools enroll students into those specialty only after their admissions. Students are placed in the schools according to their aggregate scores, which determines whether they attend a first-class, second-class, or third-class school (Asihene, 2009; Adinyira, 2012; Azaglo, Oppong and Antwi-Agyei Boateng, 2021). Again, the aggregate also determines whether the students will get to do

their programme of choice. It is often noticed in the Ceramics specialty that low academically performing students are the ones who are thrown there.

Azaglo, Oppong and Antwi-Agyei Boateng (2021) asserted that many of the students who get admissions and obtained low grades and the aggregate 40s are the ones often pushed to offer Visual Art courses, in most of the schools. According to their study, they realized for the 2020/2021 academic year, all 56 students who were enrolled into Visual Art at Battor SHS in the Volta region, were aggregates 36-45. Additionally, they identified that students who obtained higher grades and wanted to offer Visual Art courses were rather persuaded to study General Science—the course hyped for only brilliant students. Azaglo, Oppong, and Antwi-Agyei Boateng further revealed that most often the head of the school, non-Visual Art teachers, and highly educated parents most often than not discourage the brilliant students from offering Visual Art let alone to study Ceramics.

The study also stated that some schools would admit low intelligent students into the Visual Art programmes in order to feature them in the schools sporting activities. This means that the students who are unable to meet the enrollment criteria for General Science or Business are thrown into Visual Art even if they do not have interests for it. Hence, low graded students eventually find themselves in Ceramics or any of the other Visual Art programmes. It thus appears that significant number of students who are enrolled into Ceramics and the other visual Art courses, get there merely through the arrangements of the school managements rather than the students' skills and interest levels.

A vocational programme like Ceramics, deserves better student who have passion for excellence and the dexterity to explore and acquire more vital skills in the field to prepare them for self-sufficiency. Due to the lack of consideration for students' interest before they are enrolled into specialties, many students with no passion for Visual Art and for that matter Ceramics, who get there eventually, are unable to exhibit seriousness toward academic activities throughout their stay in the school. Sadly, this is the reason why many students become a disgrace to the Visual Art Course, because they exhibit nonchalant and insouciant attitudes toward academic activities and in most cases become truant students in the schools.

It is no wonder that Azaglo, Oppong and Antwi-Agyei Boateng (2021) bemoaned that majority of Visual Art students perform abysmally in schools' exams and WASSCE. Consequently, Arts students are generally branded as academically low-intelligent students (Essel, Agyarko, Sumaila and Yankson, 2014; Azaglo, Oppong and Antwi-Agyei Boateng, 2021) which is not healthful to the Art fraternity.

Additionally, Azaglo, Oppong and Antwi-Agyei Boateng (2021) argued that a major barrier to the development of Visual Art in senior high schools is the public's negative attitude and perception of Visual Art education in general. Although Ghanaians still have negative views about vocational education, especially the Visual Art, they seem to accept and understand the benefits of art in all of its forms. For example, although parents find Ceramics education generally as unattractive, they are unable to resist the aesthetics appeal of Ceramics products such as water closets, sinks and tiles which have become ubiquitous globally.

In their research, they further claimed that because the majority of parents and guardians hope for their children to become doctors, lawyers, engineers, bankers, or accountants, they shrug off vocational courses that they find unattractive. Unfortunately, Azaglo, Oppong and Antwi-Agyei Boateng contended that many parents in Ghana regard masons, sculptors, auto mechanics, hairdressers, carpenters, and painters as trades that are reserved for unintelligent students who cannot progress to the university.

Challenges Facing Ceramics Education in Ghana

Education is a crucial tool for preparing people to become independent. It has rightfully drawn more attention as a key enabler in ending the cycle of poverty, especially in developing nations like Ghana. Vocational education, which focuses on preparing students for certain jobs and, in some cases, for immediate entry into the workforce, is even more important (Attoh, 2016). Acceptance for Ceramics education as a component of the vocational educational process has grown as a way to acquire information and skills that are seen to assist a nation in its economic development, social uplift, and political vigour (Mulford, 2003; Pont, Nusche and Moorman, 2008). Education in Ceramics is a crucial instrument for preparing people for various levels of life as craftsmen and consultants by providing them with the necessary information and practical skills.

Like any other sector of education, Ceramics has its share of challenges. One of the challenges facing Ceramics education is the threat to the clay raw materials that supports the Ceramics industry's operations. Studies have shown that although clay is abundantly available in Ghana, it is becoming scarce to obtain Ceramics manufacturing purposes. Nortey and Asiamoso (2019) revealed that local officials kept giving off possible clay areas for housing construction and other infrastructure purposes. In the study, they explained that the situation was making it difficult for potters and other Ceramics manufacturers to find suitable clay within practical hauling distances. Given that clay is the primary raw material basically for Ceramics productions, it makes the situation dire since the small-scale pottery businesses are limping.

Moreover, there is a decline in the demands for pottery products most of which the proliferation of plastic goods is to blame. The cheap plastic goods are inimical to the pottery industry's product market. This matter is serious since the livelihood of the potters depends on their market (Nortey and Asiamoso, 2019). Nortey and Asiamoso (2019) asserted that the severe economic hardships that potters are experiencing are adversely affecting them. The study identified that many of the craftsmen have had to quit with many others deciding to leave the business since making a living from their craft is difficult as of now. They added that the business continues to face significant challenges from the importation of foreign ceramic products as well. However, they argued that since this level of competition will never abate, it is critical to support the pottery sector since it protects ethnic and national culture, as well as gives socio-economic benefits.

The decline in Ceramics production and sales can be linked to the low academic and career interest in Ceramics. Many individuals will not allow their children to pursue

Ceramics when they see the activities of the sector dwindling. Again, parents in this struggling sector would not invest money in their children's education if their livelihood-supporting occupation is in threat. There is little chance that the manufacturers of Ceramics whose companies are failing will permit their families or urge their loved ones or friends to pursue Ceramics as a field of study. The issues affecting the small-scale Ceramics industry require appropriate policy interventions by the government and other concerned stakeholders in order to salvage the waning growth if not dying of small-scale Ceramics. If the situation is not attended to, Nortey and Asiamoaso (2019) opined that many of the remaining local craftsmen would also likely abandon the trade. It is not difficult to connect the dots and assert that the waned interest and popularity of Ceramics education in Ghana is directly linked to the under performance of the local pottery activities. In particular, as many people perceive that learning about Ceramics solely comprises making objects like pots, cups, and bowls many students will shun away from academic and career pursuit of Ceramics.

In view of the challenges discussed above, it thus appears that Ceramics is not a lucrative career path despite the numerous socioeconomics advantages it provides. In a study to assess the Tamale HND Industrial Art Programmes such as Ceramics, Textiles and Leatherworks and their contribution to employment and job creation in the Art Industry in Ghana, Bukari (2021) revealed that only about 50% of the students who pursue Ceramics get employed/self-employed. Also, the study found that lack of job opportunities in the Ceramics industry accounted for the 50% of the graduates' unemployment. Although the Ceramics students obtain the requisite skills according to their industrial internship supervisors, and graduate from school with adequate skills, the study concluded that there are no ready industries to employ them. As a consequence, the reality of the perishing small and medium scale ceramics industries, will not encourage many parents to allow their children to pursue Ceramics an academic path which will offer them the least chance of employment opportunities.

METHOD

The study's primary goal was to investigate the causative factors that underpin students' low academic and career interest in ceramics in the Kumasi Metropolis. In view of this, the researchers adopted the mixed method approach of QUAN+Qual where priority was given to the quantitative data which was taken simultaneously with the qualitative data. The study sampled participants from three schools selected out of six which offered Ceramics within the Kumasi Metropolitan District. They were KNUST Senior High School (Mixed), Kumasi High School (all boys) and Yaa Asantewaa Girls Senior High School (all girls). The researchers sampled 273 participants from the three schools; collected quantitative data from 45 teachers and 217 students, and obtained qualitative data from 9 parents and 2 heads of schools. In addition, observations were conducted in the schools to determine whether or not the schools had Ceramics Studio to enhance teaching and learning of Ceramics. Figure 1's diagram summarizes the methodology adopted by the researchers for the study.

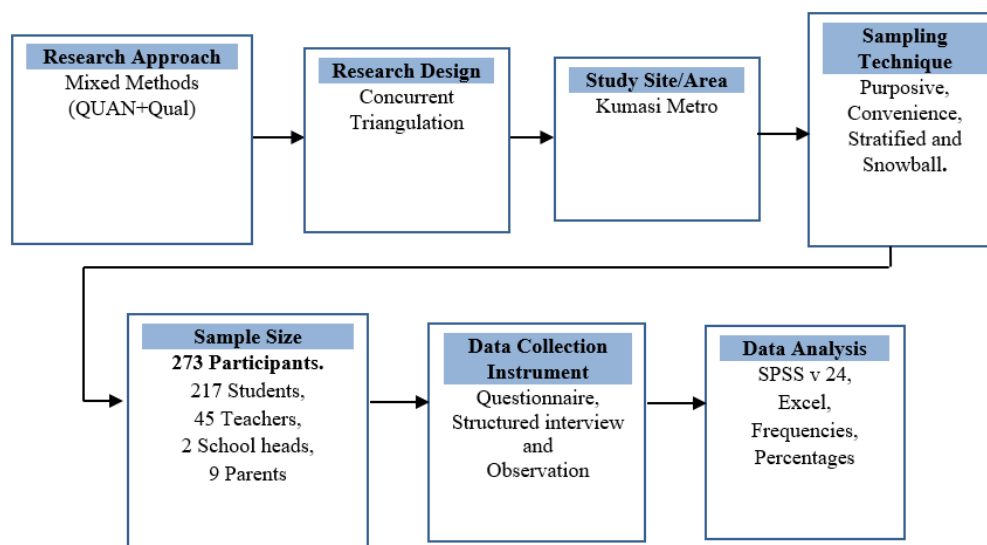


Figure 1: Methodology for the study

RESULTS AND DISCUSSION

The study looked at the causative factors underpinning students' low academic and career interest in ceramics in the Kumasi Metropolis. To achieve the goal of the study, the researchers interrogated the participants about issues that border on the environmental issues in the schools as well as perceptions that the researchers find to be crucial to student's academic and career choices. The responses were collected and rated in four Likert Scale: Strongly Agree (SA); Agree (A); Disagree (D) and Strongly Disagree (SD).

Factors Accounting for the Low Academic and Career interest in Ceramics Among the Senior High School Students

Table 1: Respondents responses on whether there is low employment opportunity in Ceramics

Respondents	SA		A		D		SD	
	F	%	F	%	F	%	F	%
Students	99	46	69	32	21	12	22	10
Teachers	19	42	16	36	15	33	2	4
Parents			7	78	2	22		
School Heads					1	50	1	50
Total (of 273)	118	43	92	34	39	14	25	9

Source: Field Survey 2022

The researchers sought to find out whether the respondents perceived Ceramics as having a low employment opportunity for students. The results in Table 1 shows that out of the 273 respondents, 118 (43%) strongly agreed, where 92 (34%) agreed, 39(14%) disagreed and only 25 (9%) strongly disagreed that Ceramics there is a low employment opportunity in Ceramics.

Lack of Ceramics studio in the schools

Table 2: Respondents responses on whether is a lack of Ceramics Studio in the schools

Respondents	SA		A		D		SD	
	F	%	F	%	F	%	F	%
Students	88	41	79	36	41	19	9	4
Teachers	12	27	16	36	15	33	2	4
Parents			9	100				
School Heads	1	50	1	50				
Total (of 273)	101	37	105	38	56	21	11	4

Source: Field Survey 2022

The researchers wanted to find out whether the schools were equipped with Ceramics Studios to assist in the teaching and learning of Ceramics. The results found in Table 2 reveals that 101 (37%) strongly agreed that majority schools did not have Ceramics. Also, there were 105 (38%) respondent who agreed, where 56 (21%) disagreed and only 11 (4%) strongly disagreeing.

Figure 2 shows the results of the observation conducted in the three schools. It was identified that only one of the schools had a studio and supportive equipment. The remaining two of the schools did not have a studio and the supportive equipment to facilitate teaching and learning of Ceramics.



Figure 1: The schools' availability of Ceramics Studio

Scarcity of ceramics textbooks for students

Table 3: Respondents responses on whether there is scarcity of Ceramics Textbooks

Respondents	SA		A		D		SD	
	F	%	F	%	F	%	F	%
Students	53	24	104	48	50	23	10	5
Teachers	4	9	23	51	17	38	1	2
Parents			6	67	3	33		
School Heads			2	100				
Total (of 273)	57	12	135	49	70	26	11	4

Source: Field Survey 2022

The researchers also sought to find out whether Ceramics textbooks were readily available for students to acquire in order to facilitate their studies. As revealed by the results in Table 3, 135 (49%) of all the respondents agreed that Ceramics textbooks are scarce to find. There were also 57 (12%) who strongly agreed whilst 70 (26%) disagreed and 11 (4%) who also strongly disagreed. The table shows that the schools head did not disagree on the scarcity of Ceramics textbooks as all of them agreed. The researchers check from the schools' stores indicated that Ceramics textbooks are not included in the government's intervention textbooks that are provided to schools. Hence, 104 (48%) majority agreed to confirm about the scarcity of Ceramics textbooks.

Difficulty in obtaining clay for practical activities

Table 4: Respondents responses to whether there is difficulty in finding clay

Respondents	SA		A		D		SD	
	F	%	F	%	F	%	F	%
Students	21	20	90	42	73	34	33	15
Teachers	1	2	27	60	12	27	6	11
Parents			5	56	4	44		
School Heads			1	50	1	50		
Total (of 273)	23	8	123	45	90	33	39	14

Source: Field Survey 2022

Since clay is the main raw material for Ceramics in the schools the researchers sought to find from the respondents whether there were difficulties in finding clay for practical activities. From Table 4, 123 (45%) of the respondent agreed to the difficulty in obtaining clay, where only 23 (8%) strongly agreed. However, the table also shows that 90 (33%) disagreed while 39 (14%) strongly disagreed. The revelation that there is difficulty in obtaining clay for practical activities proves corroborate the study conducted by Nortey and Assiamoaso (2019 that identified that clay is gradually becoming difficult to obtain. They expressed that, local officials, particularly chiefs, frequently sell off clay lands located within their jurisdictions for residential construction purposes.

Lack of knowledge about Ceramics before students enter into the senior high school.

Table 5: Respondents responses on whether students get knowledge about Ceramics before senior high school entry

Respondents	SA		A		D		SD	
	F	%	F	%	F	%	F	%
Students	107	49	52	24	35	16	23	11
Teachers	18	40	14	31	8	18	5	11
Parents			8	89	1	11		
School Heads			2	100				
Total (of 273)	125	46	76	29	44	16	28	10

Source: Field Survey 2022

On this factor, the researchers sought to identify whether students who get to be enrolled in Ceramics at the senior high school acquire a prior knowledge in Ceramics in order to influence their academic programmes choice. The results found in Table 5 shows that 125 (46 %) of the respondents strongly agreed that they did not have any knowledge about ceramics before their entry into the senior high school. While 76 (29%) agreed, there were also 44 (16%) who disagreed and only 28 (10%) strongly disagreeing.

In addition, all the respondents were enquired to rate their level of knowledge about Ceramics, whether they have a fair, none or an ample knowledge. Table 6 provides the data for their responses.

Table 6: Respondents level of knowledge about Ceramics

Respondents	Fair		None		Ample	
	F	%	F	%	F	%
Students	85	39	52	24	80	37
Teachers	20	47	16	37	7	16
Parents	3	33	6	67		
School Heads	1	50	1	50		
Total (of 273)	109	40	75	27	87	32

Source: Field Survey 2022

Table 6 shows that 109 (40%) of the respondents had a fair knowledge about Ceramics, where 75 (27) had no knowledge at all. Also, 87 (37%) indicated that they had ample knowledge about Ceramics.

The perception that Ceramic is for students with low intelligence

Table 7: Responses on whether the perception that Ceramics is for students with low intelligence exist

Respondents	SA		A		D		SD	
	F	%	F	%	F	%	F	%
Students	77	36	66	30	20	9	54	25
Teachers	17	38	11	24	9	20	8	18
Parents			1	11	8	89		
School Heads					1	50	1	50
Total (of 273)	94	34	78	29	38	14	63	23

Source: Field Survey 2022

Table 7 shows the respondents' responses on whether the perception held that Ceramics is a subject for the low intelligence students affects student interest to study Ceramics. The data shows that 94 (34%) of the respondents strongly agreed, 77 (29%) also agreed whereas only 38 (14%) disagreed and 63 (23%) strongly disagreeing. In the table, 8 (89%) of the parents disagreed on the basis that they did think that intelligence students are supposed to study Ceramics. in the course of interviewing the parents, the researchers sought

the view of the parents whether they think that their children who were pursuing Ceramics in the schools were brilliant academically. In their response all parents (100%) responded in the affirmative, which indicated that their children did not choose to study Ceramics because they were weak academically.

The researchers asked the teachers employed in the study to mention additional which they find to be contributory factors to the student' low academic and career interest in Ceramics in the senior high schools the following responses were provided:

- *Students feel that setting up their own Ceramics studio to continue the course is expensive hence they would not enroll in Ceramics*
- *Few of the SHS in Ghana offer the Ceramics course because of lack of interest. The basic material which is clay is sometimes hard to obtain. In many cases, firing kilns are unavailable, potter's wheels are hard to obtain. Clay is seen as a messy material and many heads of schools do not appreciate art and find it difficult to embrace it in their schools.*
- *There is a huge cost involved in the manufacturing of Ceramics articles. There are negative comments from people (i.e., student, some teachers, etc.) about the Ceramics course affect the students negatively.*
- *There is a lack of policy direction by state actors for the Ceramics field.*
- *Most students have little knowledge about the subject from the JHS and it makes it impossible to develop interest for it.*
- *Lack of practical studios facilities does not attract students as compared to science laboratories.*
- *I think that there are inadequate teachers in the GES to teach the Ceramics Programme, this is due to the fact that many people do not like to pursue Ceramics compared to other Humanity programmes at the universities.*

CONCLUSION

The study aimed to figure out the causative factors that underpin students' low academic and career interest in Ceramics in the Kumasi Metropolis. The study discovered that the lack of Ceramics studios for hands-on learning in schools, the perception that there are few employment opportunities in Ceramics, students' lack of knowledge or understanding of Ceramics before they enter senior high school, the scarcity of Ceramics textbooks, the difficulty in obtaining clay for practical activities, and also the perception that Ceramics is for students with low intelligence, as causative factors that impinge on students' academic and career interest in Ceramics. The study contends that at least, one important provision to entice students to enroll in Ceramics is the favorable conditions in the form of a well-furnished Ceramics studio that can guarantee that student work in a conducive environment. Otherwise, students will find Ceramics to be a difficult and tiring subject, which will dampen their enthusiasm for it. Whether it is a short-term or long-term programme, education should always provide the finest knowledge and skills geared to help

students not only thrive but to also give back to society. In order to make Ceramics appealing to students, stakeholders must make sure that all obstacles associated with its teaching and learning in the senior high schools are eliminated.

REFERENCES

- Adinyira, S. K., 2012. *Perception And Attitudes About Senior High School Visual Art Programme and The Influence on The Students in Kumasi Metropolis*. Master's Thesis. Kwame Nkrumah University of Science and Technology, Kumasi.
- Asante-Kyei, K., 2015. The Challenges Facing Ceramic Industries in Ghana: Its Impact on Ceramic Education in Ghana.
- Asihene, G., 2009. *The role of core subject teachers in the academic performance of Visual Art students in Ghanaian Senior High School*. Master's Thesis. Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.
- Attoh, C., 2016. *Low patronage of students in clothing and textiles programme in the Senior High Schools of Ghana: a case study of Kumasi Metropolis* (Doctoral dissertation, University of Education, Winneba).
- Azaglo, A.K., Oppong, C.E., Antwi-agyei Boateng, B., 2021. Selection of Students for Visual Art Programme at Senior High Schools in Ghana. *Academia Letters*, Article 4369. <https://doi.org/10.20935/AL4369>.
- Breuer, S., 2012. The chemistry of pottery. *Education in Chemistry*, 49(4), p.17.
- Bukari, M., 2021. Evaluating the higher national diploma industrial art programme of tamale technical university in Ghana. (Doctoral dissertation, KNUST) Unpublished.
- Carter, C.B. and Norton, M.G., 2007. *Ceramic materials: science and engineering* (Vol. 716, p. 712). New York: springer.
- Evans-Solomon, F. and Opoku-Asare, N.A., 2011. Girls' Motivation, Participation and Preference for Visual Art Subjects in Four Senior High Schools In Central Region, Ghana. *Journal of Science and Technology (Ghana)*, 31(3), pp.118-128.
- Evans-Solomon, F., 2004. The girl child education in Ceramics: opportunities and challenges. MA Thesis: Dept. of General Art Studies, KNUST.
- Geiger G., 2017. Introduction to Ceramics. American Ceramics Society.
- Mason, T. O., 2016. Advanced Ceramics. *Encyclopedia Britannica*. <https://www.britannica.com/technology/advanced-Ceramics>.
- Nortey, S. and Asiamoso, E., 2019. The Effect of the Decline on Pottery in Ghana and Socio-Economic Implications on Potters. *Ghana Journal of Science*, 60(2), pp.42-54.
- Nortey, S., Opoku-Amankwa, K. and Bodjawah, E. K., 2013. 'Factors affecting low Ceramics specialization decisions within the KNUST Industrial Art degree programme', *International Journal of Education through Art* 9: 2, pp. 205–218, doi: 10.1386/eta.9.2.205_1
- Nyarkoh, E.C., 1975. The development of ceramic industries in Ghana (Doctoral dissertation, The Ohio State University).

- Odewole, P.O., 2018. Assessment of Nigerian secondary school students' opinion of Ceramics as a career choice. *Advancement in Science and Technology Research*, 4(1), pp.1-6.
- Okonkwo, I. E., 2014. Students' perception of Ceramics education in Nigeria tertiary institutions. *African Research Review*, 8(2), pp.217-234.
- Orton, C., Hughes, M. and Hughes, M., 2013. Pottery in archaeology. Cambridge University Press.
- Pont, B., Moorman, H. and Nusche, D., 2008. *Improving school leadership* (Vol. 1, p. 578). Paris: OECD.
- Sessions, B., 1999. Ceramics Curriculum: What has it Been? What could it Be? *Art Education*, 52(5), pp.6-11.
- Shabalin, I. L., 2015. Nanotechnological advances in the hetero-structural materials design of Ceramics. *In Proc. 5th Int. conf. HighMatTech-2015, Kyiv, Ukraine (p. 33)*.
- Subedi, M. M., 2013. *Ceramics and its Importance*. Himalayan Physics. 4. 80-82. doi:10.3126/hj.v4i0.9433.
- Woodford, C., 2022. Ceramics. [Accessed 21 July 2022]. <https://www.explainthatstuff.com/Ceramics.html>.

**AN INVESTIGATION OF THE CAUSATIVE FACTORS
UNDERPINNING STUDENTS' LOW ACADEMIC AND CAREER
INTEREST IN CERAMICS IN THE KUMASI METROPOLIS**

James Jerry Nuako¹, Isaac Kwabena Agyei², Lord Sam Addo-Danquah³, Joe
Adu-Agyem⁴, Kofi Adjei⁵

DOI: <https://doi.org/10.54443/sibatik.v3i1.1785>

