

JUSTICE KORANTENG¹

MORO ISMAILA¹

DICKSON ADOM²

MICHAEL TETTEH³

¹ Department of Communication Design
KNUST, Kumasi, Ghana.

² Department of Educational Innovations in Science and
Technology, KNUST, Kumasi, Ghana.

³ Ghana Business School, University of Ghana
P. O. Box LG 25, Legon, Ghana

Constructivist teaching strategies for graphic design education in selected senior high schools in Ghana

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Abstract

The purpose of this study was to find out the constructivist teaching strategies that can maximize students' performances in Graphic Design in some selected Senior High Schools in Ghana. This was seen as important because of the weaknesses associated with teacher-centred teaching approaches such as using the lecture method that does not allow students to actively participate in the construction of knowledge. A qualitative inquiry was used in garnering data from 57 purposively selected sample consisting of 7 teachers and 50 students from Senior High Schools who have performed creditably in Graphic Design education in Ghana. Data were solicited from them via personal interviews, focus group discussions, and direct classroom observations on the effective teaching strategies for Graphic Design that maximize students' learning outcomes. The data were analyzed using thematic analysis under the qualitative research approach. The results showed that student-centred teaching strategies were more effective in the teaching of the Graphic Design subject in the selected Senior High Schools in Ghana as against the popular teacher-centred approaches. Thus, Demonstration, Discussion, Cooperative-Learning, Problem-Solving, and Project-Based teaching strategies were observed to actively involve students and promoted more hands-on activities that assisted learners in acquiring the required vocational skills in the field of Graphic Design. Addressing challenges such as appropriate working studios, provision of

Keywords

constructivist teaching theory, learner-centred teaching strategies, graphic design, practical skills

recommended textbooks, computers for the introduction of CAD programmes proved to be effective means of enhancing Graphic Design education in the selected Senior High Schools. The study concludes that for Graphic Design education in the selected Senior High Schools to fully fulfill its objectives of assisting learners to gain the required content knowledge and hands-on skills in their chosen fields of study, more effective learner-centred teaching strategies such as discussion, problem-solving and project-based teaching strategies must be used.

1. Introduction

Teaching at any level of education is aimed at producing transformation within the learner (Ludigo, Mugimu & Mugagga, 2019). Adom, Adam and Agyemang (2016) assert that in the teaching of any subject, teachers must aim at selecting very efficient instructional strategies that would make the teaching and learning activities interesting. A good instructional strategy should be able to assist learners to be innovative and transformers of society (Dorgu, 2016). These are the desirable changes in learners (Dalmolin et al., 2018) that effective teaching should target. Teachers must do their best to help all students attain the goal at the end of their schooling irrespective of their background, class of the school, or interest (Fiona, 2019).

It has been observed that the low academic outcomes of many students are attributed mainly to the ineffective teaching approaches employed to provide knowledge to learners (Dalmolin et al., 2018, Adom et al., 2016). Similarly, the low performance in Graphic Design in many studies have been attributed to the poor selection and use of teaching strategies that lack Art culture, deficient in deploying the school curriculum, and more importantly, fail to engage learners actively in the teaching and learning activities in the classroom (Ndongfack, 2015). In the teaching of Graphic Design, instructors must select a teaching strategy that assists learners in cultivating self-belief, positive attitude, and self-efficacy (Zheng, 2016). In a study conducted by Sugandini et al. (2018) among some college students in Indonesia, it was noted that students' performance in Graphic Design was found to be significantly related to many factors such as novelty-seeking behaviour, ability to accept new ideas and innovation as well as students' confidence with the latter being the key factor in practising the learned content. In two other related studies, students' positive attitudes toward the Graphic Design subject while providing a conducive environment

to practice what was learned was found to be highly influential to performance (Linda et. al., 2020).

Ensuring effective teaching is a painstaking task, a complex activity that requires various forms of knowledge including pedagogical content knowledge (PCK) and curricular knowledge (Gess-Newsome, 2015). Moreover, teachers need to be abreast with teaching strategies that take into account the complex nature of concepts to be addressed (Dalmolin, et al., 2018). To promote success in teaching, teachers must pay close heed to the makeup of the learners in his/her class (Slaten, Irby, Tate & Rivera, 2015). A skillful teacher employs different strategies appropriate in different circumstances (Awad, 2017). Granted, teacher-centred approaches for teaching have been the mainstay of practice compared with the student-centred methods (Adom et al., 2016). Educational research until recently has been focused on the effectiveness of teaching methods on student teaching (Weaver, 2019) as well as the use of student-centred methods of teaching as advocated by constructivists (Adom, Yeboah & Kusi, 2016). These methods include; demonstration, discussion, role play, project, discovery, cooperative among others. The proper curriculum execution depends largely on the use of teaching strategies that consider learners as thinkers and a greater part of the teaching and learning dispensation. This would help in achieving the ultimate aim of teaching which is assisting learners in attaining effective skills and attitudinal change through a set of planned activities that actively engages learners (Dorgu, 2015). These student-centred approaches are indispensable in the teaching of subjects such as Graphic Design where priority is always given to skills acquisition. A recent report from chief examiners for Graphic Design at the Senior High School level reveals a constant decline in the performances of students in the majority of Senior High schools in Ghana (Chief Examiners Report for Graphic Design, 2005-2016). Previous studies carried out in Ghanaian Senior High Schools, such as Sebbbeh (2017) has suggested via his study, the need to introduce computer-assisted design programmes to enhance the study of Graphic Design while ensuring the maximization of learning outcomes. Siaw and Nortey (2011), as well as Aidoo (2018), have broadly discussed the pedagogical challenges with the teaching of Visual Arts in Ghanaian Senior High Schools such as teachers' lack of the required educational qualifications and logistic support to enhance teaching and learning activities. Their studies, due to their broader context, failed to highlight the specific teaching strategies for Graphic Design as a subject. Also, they failed to suggest which of the teaching strategies are effective or ineffective in relation to expected learning outcomes. Ametordzi, Osei-Poku and Eshun (2012) attempted to investigate

the pedagogical strategies for teaching Graphic Design in Senior High Schools. Yet, they limited their study to just the Ashanti region of Ghana and did not suggest effective teaching strategies that can solve the pedagogical challenges they identified in their study. As researchers, we hold the position that to avert the poor performances of students in the Graphic Design subject in Ghanaian Senior High Schools, there is the need to investigate the effective teaching strategies that can maximize learning outcomes. To vouch for the effectiveness of the teaching strategies, they were subjected to the constructivist teaching and learning theory noted for promoting learner-centred teaching approaches. Thus, the effectiveness criteria were determined by how close they were to the principles in the constructivist teaching and learning theory and aided in the achievement of appreciable learning outcomes. The research questions that pivoted the study were:

1. What teaching strategies are used in the teaching of Graphic Design in the selected Senior High schools in Ghana?
2. How effective are the teaching strategies in helping learners achieve the set teaching objectives and demonstrate appreciable learning outcomes?
3. How can the teaching of Graphic Design in Ghana be improved to maximize students' learning outcomes?

1.1 Constructivism Teaching/Learning Theory

The constructivism learning theory as an epistemological approach to knowledge acquisition places a premium on the construction of knowledge by the learners with the teacher serving as a guide (Amineh & Asl, 2015). This approach to teaching and learning is different from the traditional approach to instruction that often relies solely on knowledge transmission with passive participation of learners (Adom, Yeboah & Kusi, 2016). Constructivism theory of teaching and learning posits that knowledge is actively constructed by the learners and not passively received from outside (Olusegun, 2015). The teaching and learning processes are dominated by the views of learners, with teachers constantly taking cognizance of learners' existing ideas or relevant previous knowledge (Ronfeldt et. al., 2015). Teaching can effectively reach the hearts of learners if it is done collaboratively with the students. Their interests, skills, and knowledge are gradually developed by instructors whose key role is more of coaching the learners to discover knowledge. Therefore, in the teaching process,

teachers act as facilitators who are supposed to guide students to generate their understanding (Radhakrishnan, Deboer, & Kimani, 2018). It is based on the premise that people form or construct much of what they learn through experience (McLeod, 2019). How well students are able to construct meaning through experiential learning defines learning to the constructivist (Adom, Yeboah & Kusi, 2016). It is through the act of doing and engaging learners in a dialogue that they discover knowledge, thus, favoring learner-centred teaching approaches as opposed to teacher-centred approaches (Kevin, 2016). Teaching methods that prioritize the active participation of learners as a catalyst in knowledge discovery such as Directed Reading-Thinking Activity, Question-Answer Relationship, the use of Response Cards, Daily Relooping of Previously Learned Material, Cooperative Learning (Adom, Adam & Agyemang, 2016) as well as Studio-Based instructional methods must be used in the teaching and learning activities in the classroom. This is very crucial for practical-oriented subjects such as Graphic Design where most of the teaching content requires the grasping of skills in doing rather than learning abstract concepts.

2. Methodology

2.1. Research Approach

The investigation was carried out using the qualitative research approach. The qualitative research was appropriate because the study required the garnering a great amount of verbal data from a small number of participants in the selected schools through interviews (face-to-face, focus group discussion) and observations on the effective teaching strategies for Graphic Design (Gastaldo, Rivas-Quarneti, & Magalhães, 2018). This interpretive narrative from the study was used in judging the effectiveness of the teaching strategies (Ali et al., 2016).

2.2. Research Design

The descriptive research design was used for gaining insight (Silva, 2017) into the teaching strategies used for teaching Graphic Design in the selected schools. The study required firsthand information on how the teaching strategies are used through direct observation of the teaching and learning activities (Saunders & Townsend, 2016). Because the data was solicited within the context of the respondents' world of operation, thus, in the classrooms where the teaching and learning of Graphic Design are carried out, the descriptive research was deemed appropriate (Kassu, 2019).

2.3. Sample Selection, Size, and Design

The study participants were selected purposively because it aimed at accruing data from Graphic Design teachers and students who are more knowledgeable (Gastaldo, Rivas-Quarneti & Magalhães, 2018; Ali et al., 2016) in judging the effective teaching strategies for the subject. They are in the best position to offer an insiders' perspective (Sharif & Cho, 2015) on the appropriate teaching strategies for Graphic Design. As a result, Graphic Design teachers in schools that have demonstrated consistent successes in learning outcomes according to the West African Senior Secondary School Certificate (WASSCE) results as well as considerable hands-on skills acquired by their learners (WASSCE Graphic Design Results from 2005-2017) were recruited for the study.

Seven (7) Graphic Design teachers from the selected schools with remarkable teaching experiences in four selected senior high schools were recruited for the study in four Senior High Schools in four different regions in Ghana, namely the Ashanti Region, Eastern Region, Central Region, and Western Region (Table 1). Also, fifty (50) third-year students from the selected schools who have studied the Graphic Design for some considerable number of years, knowledgeable and willing to share the teaching strategies that help them in easily understanding the learned content and are able to practice the skills in Graphic Design on their own with little or no supervision were recruited to take part in the study. Though in qualitative studies, there are no mandatory standards in deciding sample sizes (Tanh & Tanh, 2015), the fifty-seven (57) study participants were manageable and their views were enough in reaching the point of data saturation (Gastaldo, Rivas-Quarneti & Magalhães, 2018).

Table 1

Breakdown of study participants in the selected schools

Name of School	No. of Students	No. of Teachers
ABE SHS	15	2
MPO SHS	20	2
NKA SHS	10	2
PA SHS	5	1
TOTAL	50	7

Source: Field Work, 2018

2.4. Data Collection Procedures

Interviews and direct observation which are two instruments for data collection in qualitative studies were used. The seven Graphic Design teachers were interviewed privately. Each interview lasted for barely one hour and was audio recorded. The interviews were conducted using a validated interview guide developed based on the three research questions that pivoted the study. Detailed views (Sharif & Cho, 2015) on instructional strategies that are effective and ineffective for teaching Graphic Design were garnered from the teachers. Ten focus group discussions (FGDs) were organized for the fifty (50) purposively selected third-year students in the four selected Senior High schools. Each focus group consisted of five students, manageable size with students of the same academic level and interest in the Graphic Design subject (Linda et al., 2020). The focus groups helped in allaying the anxieties of the students for the study and assisted them in speaking freely amidst their classmates (Sharif & Cho, 2015). All the ten FGDs were video recorded so that the views could be effectively transcribed for onward analysis.

Fourteen Graphic Design lessons by the teacher participants in the selected schools were directly observed to have firsthand information (Okyere, 2017) on the instructional strategies used in the teaching and learning activities. The lessons were observed randomly and without prior notice of the teacher participants so as not to create a social reaction effect whereby they would have put up their best performances to satisfy the objectives of the research. The classroom teaching lessons observed were crucial in judging those that were effective and ineffective based on how well the set teaching objectives were met as well as the learning outcomes achieved by the students. A well-developed observation checklist was used in observing the areas of interest, herein being the instructional strategies and their dispensation in the teaching and learning activities.

2.5. Data Analytical Procedures

The steps in the qualitative data analysis (Norton, 2015) were used for analyzing the data accrued for the study. The data were presented and discussed under the research questions for the study. The insider's perspective, thus, the views expressed by the respondents, were discussed with existing literature (Outside perspective) in the light of the constructivist teaching/learning theory that formed the theoretical basis for the study. The voices of respondents were represented through quoting of key ideas that reflected the popular views of respondents.

2.6. Ethical Considerations

The British Sociological Association (2017) Statement of Ethical Practice states that participation in social research should be voluntary and informed consent of the respondents sought. Moreover, an informed consent form was given to each of the participants to voluntarily sign if they wanted to partake in the study. All the fifty-seven respondents fully gave their consent by signing and submitting the consent forms to the researchers (Stevens et al., 2016) before they were recruited for the study. Also, the identities of the schools, the names of the respondents as well as their views were treated in anonymity to protect their privacy. Thus, in this manuscript, special codes and abbreviations have been used to represent the schools, the views (personal interviews and focus group discussions).

3. Results

3.1. Research Question One:

What Teaching Strategies are used for the Teaching of Graphic Design in the Selected Senior High Schools in Ghana?

The teachers interviewed disclosed that they used the teaching strategies in Table 2 for dispensing the teaching of Graphic Design.

Table 2

Respondent's responses to teaching strategies used by teachers in teaching Graphic Design in the selected senior high schools.

S/N	Description	Number of Respondents	Percentage	Decision
1.	Demonstration method	7	100	Utilised
2.	Discussion method	5	71.4	Utilised
3.	Brainstorming method	5	71.4	Utilised
4.	Project-based method	6	85.7	Utilised
5.	Lecture method	3	42.8	Utilised
6.	Observation method	3	42.8	Utilised
7.	Cooperative learning method	6	85.7	Utilised

Source: Fieldwork, 2018

It was noted that the majority of them used student-centred approaches in delivering teaching and learning activities. These were some of the views of the teachers regarding their teaching strategies:

As a practical oriented subject, I use the project-based method and demonstration in teaching most of my lessons in Graphic Design (ABE-1, Personal Interview, 23/5/2018).

I use discussion and demonstration methods in the teaching of Graphic Design in most cases. I only use the lecture method when I am introducing a new concept or teaching the historical component of the subject (NKA-1, Personal Interview, 07/6/2018).

I use the lecture method whenever I am introducing a new topic in my Graphic Design class (PA-1, Personal Interview, 14/7/2018).

In the focus group discussions with the students, they also mentioned that their Graphic Design teachers used student-centred approaches (47 out of 50) and teacher-centred approaches (3 out of 50), though, they gave descriptions of them. Some of their comments were:

Our teacher always allows us to express our views on the topic. He uses illustrations in his lessons for us to understand. He does not tell us everything. On most occasions, he will help you to find the answers through reasoning (STU-MPO-4, Focus Group Discussion, 5/7/2018).

After teaching us the theory of the topic, our teacher demonstrates to us how the project is done (e.g. logo, book jacket) and then allows us to creatively produce our projects. He has great patience, always helping each of us to engage in the practical activities to develop the practical skills (STU-PA-3, Focus Group Discussion, 3/7/2018).

The views of the students show that their instructors use discussion, observation, problem-learning, demonstration, project-based, and lecture methods at different times in the teaching and learning activities in Graphic Design. In the fourteen classroom teaching lessons observed by the researchers, we realized that eleven lessons were carried out using student-centred approaches namely demonstration, discussion, project-based, brainstorming, observation, and cooperative teaching strategies. The remaining five lessons were taught using the popular teacher-centred approach, which is the lecture method.

3.2. Research Question two: *How effective were the teaching strategies in helping learners achieve the set teaching objectives and demonstrate appreciable learning outcomes?*

The study aimed at finding out how effective the identified teaching strategies were in assisting learners to meet the learning objectives set as well as how well the students were able to attain appreciable learning outcomes.

In the personal interviews with the teachers, we tried to find out how the teaching strategies assisted the students in gaining the content knowledge and in developing the required practical skills. All the teachers expressed views that showed that the student-centred approaches that emphasize experiential learning which is the fulcrum of the constructivist teaching/learning theory had very positive impacts on the students (Table 3). These were some of their views:

I have noted that anytime I use student-centred approaches such as discussion, demonstration, and project-based teaching strategies, I realize that they help trigger and arouse my students' interest in the lesson as it moves them to actively participate in the lessons (ABE-1, Personal Interview, 23/5/2018).

This correlates with the views of scholars who favor the constructivist teaching/learning theory. They posit that the student-centred teaching approaches help learners to actively participate in the teaching and learning activities, making it easy for them to discover knowledge (Keiler, 2018).

Whenever I use the student-centred teaching approaches, particularly, discussion, project-based, and demonstration teaching methods in the teaching of Graphic Design, they gear students toward the acquisition of the relevant practical skills to work with after school. It is so refreshing to see academically weak students, participating in the practical lessons. At least, they would have some skills to work with after their studies (NKA-1, Personal Interview, 07/6/2018).

The constructivist teaching and learning theorists posit that experiential teaching/learning strategies (McLeod, 2019) help learners in grasping the practical skills because they have engaged in the 'doing' of the activity. As O'Donnell (2016) noted, effective teaching only takes place when every student, irrespective of their academic level, can achieve the learning goals. The student-centred teaching approaches help transform all students (Ludigo, Mugimu, & Mugagga, 2019) including weak students and endow them with workable skills

to make them productive after school.

The views of the students in the focus group discussions were in consensus that the student-centred teaching approaches helped them in practising the various skills in the designing of communication products such as packaging, posters, greeting cards, and many others. They mentioned that when their teachers demonstrate the processes in engaging in these creative activities, it makes it easy for them to do the same. These were some of the popular views in some of the FGDs:

We enjoy Graphic Design lessons anytime our teachers invite us to share our views in the form of discussions. All of us get glued to the lesson taught and we feel part of the class. We are not scolded so we enjoy the lesson (ST-ABE-2, Focus Group Discussion, 12/7/2018).

When we carry out projects in the classroom with our teacher and all of us are allowed to partake in the activities, when we are left alone to reproduce similar products, it makes it easy for us. Many of us produce some of our products and sell them to our colleagues in other departments (ST-MPO-1, Focus Group Discussion, 14/5/2018).

Table 3

Teachers' and students' responses to the effectiveness of the teaching strategies used by teachers in teaching Graphic Design in senior high schools.

S/N	Description	Number of Respondents	Percentage	Decision
1.	Demonstration method	57	100	Effective
2.	Discussion method	57	100	Effective
3.	Field-trip method	54	95	Effective/Not Utilised
4.	Inquiry method	52	91	Effective
5.	Project-based method	57	100	Effective
6.	Discovery method	57	100	Effective
7.	Lecture method	24	42	Less Effective
8.	Problem-solving	52	91	Effective
9.	Cooperative learning method	55	96	Effective

Source: Fieldwork, 2018

3.3 Research Question three

How can the teaching of Graphic Design in Ghana be improved to maximize students' learning outcomes?

The views of the teachers and students were garnered concerning other ways that the teaching of Graphic Design could be enhanced to maximize students' learning outcomes. The teachers mentioned the introduction of excursions or field trips, the introduction of industrial attachment for students during vacations, the establishment of studio-based design classrooms for Visual Arts students, the provision of computers that can host web-based programmes for designing products (Table 4). Some of their comments during the personal interviews were:

I believe that regularly embarking on excursions, using apprenticeship system, students' industrial work experience scheme (SIWES) and Skills acquisition programmes, as well as using models and computer simulations and Cooperative training programmes are effective strategies for teaching practical skills in technical and vocational education institutions (NKA-2, Personal Interview, 07/6/2018).

Programme improvement must include considerate and careful selections of applicable industrial guidelines to problem-solving, visual studies, and theoretical issues. This is to ensure that relevant technology instructions are suitably nested within the other competencies in the graphic design curricula, and that graphic design students will observe technology as a means for achieving human-centred communication goals (ABE-2, Personal Interview, 23/5/2018).

Table 4

Teacher Respondents on alternative ways the teaching and learning of Graphic Design can be improved at the selected schools in Ghana.

S/N	Description	Number of Respondents	Percentage	Decision
1.	Students should be regularly attached to students' industrial work experience scheme (SIWES) programme during vacations.	7	100	Agreed
2.	The use of models and computer simulations in teaching practical skills should be encouraged.	6	86	Agreed
3.	Engaging students in the Cooperative training programme during their study.	5	71	Agreed
4.	For students to be skillful in the use of computers for the designing of visual communication media items as stated in the syllabus, the Ghana government and other educational agencies should equip all the Graphic Design departments with computers.	7	100	Agreed
5.	To establish and verify effective cooperative learning structures and methodology for the studio-based design classroom so that design teachers would feel more comfortable trying these methods to improve the effectiveness of teaching that takes place during critiques.	6	86	Agreed

Source: Fieldwork, 2018

In the focus group discussions with the students, they also shared interesting views on how to improve the teaching of Graphic Design in schools in Ghana. They cited that the establishment of a studio for practical activities in Graphic Design and stuffing it with the required tools and materials, as well as the provision and appropriate Graphic Design textbooks to facilitate learning (Table 5). These were some of their views:

I believe that with the provision of Graphic Design studios, teaching and learning will be effective and as students, we can get ourselves acquainted with proper studio practices in terms of studio work (ST-PA-1, Focus Group Discussion, 18/7/2018).

I think that the availability of tools and materials in the design studios as we see at the general science laboratories would help improve our studies as graphic design students (ST-ABE-2, Focus Group Discussion, 12/5/2018).

The provision of computers would be of great help to us as young designers to be in improving our studies both in school and after school to be able to compete in the changing world of design. Now, designs from Computer-Aided Design programmes are what is used more in the world of work (ST-MPO-1, Focus Group Discussion, 7/7/2018).

We need textbooks on Graphic Design that strictly follow the Ghana Education Service syllabus. The textbooks we buy from the bookshops do not have some of the topics we are taught. This makes it difficult for us to study on our own (ST-NKA-1, Focus Group Discussion, 8/6/2018).

Table 5

Student Respondents on alternative ways the teaching and learning of Graphic Design can be improved at the selected schools in Ghana.

S/N	Description	Number of Respondents	Percentage	Decision
1.	Provision of Graphic Design studio and workable modern computers.	50	100	Agreed
2.	A well-furnished graphic design studio with adequate tools and materials for practical activities.	50	100	Agreed
3.	There should be close collaboration between Art authors and distributors to produce a recommended textbook on Graphic Design that reflects the syllabus of the Ghana Education Service.	46	92	Agreed
4.	Educational tour to possible historical places, art exhibitions, book fairs, design firms, publishing houses, etc.	50	100	Agreed
5.	The space available in a class, ventilation, illumination, and other learning devices should be considered.	49	98	Agreed

Source: Fieldwork, 2018

3.4. Discussion

The use of varied teaching approaches by the teachers in the selected schools is commendable. This is because the Graphic Design contents to be taught are varied (Awad, 2017; Dalmolin, et al., 2018) and as such requires the skillful selection of a myriad of teaching strategies.

Thus, the teachers rightly said that they sparingly use the lecture method only when they are introducing a topic, the first time, to their students (Adom, Adam & Agyemang, 2016). However, it is evident in the data garnered that their teaching strategies are domineered with student-centred teaching approaches. Though teacher-centred approaches have been the mainstay for many teachers, the Graphic Design teachers in the selected schools demonstrated that they understand the need to equip their students with the hands-on skills as propagated by the constructivist theorists (Adom, Yeboah & Kusi, 2016). Knowing that the ultimate objective of Graphic Design education is to assist learners to gain the requisite practical skills in producing decorative and functional products, these teachers always prioritize student-centred approaches that actively involve the learners (Olusegun, 2015) to discover the knowledge (Ronfeldt et. al., 2015) while serving as guides (Amineh & Asl, 2015).

Effective teaching always helps students to be innovators (Dorgu, 2016). The views of the students indicate that the skillful use of student-centred teaching approaches by their teachers enable them to be innovators. They can grasp the practical skills in Graphic Design, making it possible for them to produce creative products. The student-centred teaching approaches are activity-based aimed at motor skills development in learners. The methods helped the students develop the abilities to illustrate, demonstrate, or perform certain skills using their manual dexterity. During the classroom teaching and learning activities, we observed that the students showed great mastery of the learned content as it was shown by the high score they had in the post-assessment written and practical assignments.

Regarding the lecture method that some of the teachers said they use when they are introducing a new topic, not all the students agreed that it helped them learn the learned content. Thus, the teacher-centred teaching strategies are not appropriate for teaching a practical-oriented subject like Graphic Design. Though field trip method of teaching where learners are sent to places such as companies and institutions for them to observe firsthand how the skills in a particular subject are used in the world of work, in all the selected Senior

High schools, it was not used by the teachers. They admitted that though they knew it was an effective teaching strategy, there were several challenges such as means of transportation and lack of good collaboration with the Graphic Design industries, and institutions make it difficult to embark on field trips. Their views are in league with the constructivist teaching and learning theory that emphasizes experiential learning and the acquisition of hands-on skills (McLeod, 2019; Adom, Yeboah & Kusi, 2016).

4. Conclusions

The study sought to investigate the effectiveness of the teaching strategies used for teaching Graphic Design in selected Senior High Schools in Ghana. The study found that demonstration, discussion, brainstorming, project-based, lecture, observation, and cooperative teaching strategies were used in the teaching of Graphic Design in the selected senior high schools. Out of these teaching strategies, the student-centred teaching strategies namely demonstration, discussion, brainstorming, observation, cooperative and project-based methods proved effective in the teaching of Graphic Design as they enhanced students' active participation and interest in the teaching and learning activities. Also, these teaching strategies assisted the students in engaging in hands-on activities enabling them to acquire practical skills in producing products in Graphic Design. The lecture method, which is a teacher-centred teaching strategy was used sparingly by the teachers in introducing new topics because the study participants opined that it crippled students' active participation. Moreover, the study revealed that the introduction of field trips, industrial attachments, studio-based classrooms, Computer-Aided Design programmes, and provision of appropriate Graphic Design textbooks could improve the teaching and learning of Graphic Design. The study concludes that student-centred approaches when utilised in the teaching and learning of Graphic Design as well as providing opportunities for developing students' practical skills through the provision of required logistics and industrial engagements could maximize students' participation and skills acquisition, thereby maximizing their learning outcomes.

5. Recommendations

Based on the conclusions drawn from the study's findings, these recommendations are being put forward for policy implementation and practice:

1. The Ministry of Education must organise nationwide workshops on student-centred teaching strategies for Graphic Design teachers in the various Senior High schools in Ghana to ensure the active participation and skills acquisition of skills in the teaching and learning activities in Graphic Design.
2. The Ministry of Education in Ghana must liaise with funding agencies to generate funds for the provision of well-equipped studio-based classrooms furnished with the required logistics for training in skills acquisition and development in Graphic Design in the various Senior High Schools in Ghana.
3. Recommended Graphic Design textbooks that are in line with the teaching syllabus must be provided to students by the Ministry of Education. The ministry must make immediate arrangements with the National Council for Curriculum and Assessment (NaCCA) to liaise with experienced Graphic Design teachers to produce a recommended Graphic Design textbook for the students.
4. Due to the changing dynamics in the practice of Graphic Design which is switching entirely to digital technology, there is the need to train Graphic Design teachers in the use of Computer-Aided Design programmes and the use of computer simulations to enhance practical training of students.
5. Industrial attachments during vacations and excursions during school hours for students must be incorporated into the teaching syllabus for Graphic Design by the Curriculum Research and Development Division of the Ministry of Education. In the various Senior High schools, heads of institutions must support these excursion/field trip programmes rolled out by the Visual Art Departments in their schools by providing the means of transportation and other essential resources to facilitate these field trips to Graphic Design industries, shops, and institutions.

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About the Authors

Justice Koranteng is a professional teacher who studied at the SDA Training College, Asokore-Koforidua in the Eastern Region. He holds a Bachelor of Arts degree in Graphic Design from the University of Education, Winneba, and an MPhil in Communication Design from the Kwame Nkrumah University of Science and Technology. He is currently teaching Graphic Design at Abetifi Presbyterian Senior High School. His current areas of research interest include educational, environmental, and social issues.

Moro Ismaila holds a Ph.D. in Art Education with Graphic Design as his area of specialization. He is currently a lecturer at the Department of Communication Design, Faculty of Art, CABE, KNUST. Much of his research interest at the moment is in video production and Education.

Dr. Dickson Adom is a lecturer and pluridisciplinary researcher in the Department of Educational Innovations in Science and Technology, Ghana, and holds an extraordinary researcher position in the School of Economic Sciences at the Northwest University, South Africa. His research interests are in African Art History, Cultural Anthropology, Rural Community Engagement and the use of Culture, TEK, Place Identity History, and African Art for Nature Conservation and Ecotourism Development. He also, researches into Vocational/ Technical Education, Higher Education, Cultural Education, and Environmental Sustainability Education. He is a strong advocate in the use of the constructivist teaching/learning theory for teaching and learning.

Michael Tetteh holds a Bachelor of Arts degree in Political Science from the University of Ghana and a Master of Arts in Public Administration from the University of Ghana Business School. He is engaged in research consultancy and community advocacy though he has taught for more than a decade at the Senior High School level. His current areas of research interest include environmental, educational, social, and political issues.

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