Teaching and Learning of Drawing for Book Design and Illustration: A Study of Higher Education in Publishing

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Teaching and Learning of Drawing for Book Design and Illustration: A Study of Higher Education in Publishing

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Abstract- The Publishing Studies department of Faculty of Art, Kwame Nkrumah University of Science and Technology (KNUST), Ghana, offers graduate training in three career paths: Book Design and Illustration (BDI), Printing Technology and Management as well as Publishing Administration. A survey of 555 students in Years 1-4 revealed a skewed distribution of 47 in BDI, 285 in Printing, and 223 in Administration; manual drawing, which is required for specialisation in BDI, is a major threat to patronage in this Publishing Studies programme option. To understand this phenomenon required observation of drawing lessons and interviewing a convenience sample of 34 BDI students over two semesters. This qualitative study found that ability to draw significantly affects students' decision for BDI: 12 reported good manual drawing skills for careers in illustration; 19 had limited drawing skills and preferred designing with computers; 3 had developed interest in drawing from Year 1 but preferred both aspects. Adopting a sequential methodology for teaching drawing could equip more students with high quality drawing skills to boost patronage and sustain BDI.

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I. INTRODUCTION

D rawing as a universal language for self-expression is an important tool for conveying otherwise concealed meanings of intentions to the general public. Learning to think creatively is important in drawing but learning the fundamentals of drawing is the most important skill to be acquired (Blavatt, 1993). "Drawing is a language from which other languages and visual communication have developed" (Douet, 2000:6); drawings composed as illustrations in children's books for example, can summarize very long text. Drawings in books, magazines, and other printed materials educate, communicate, enlighten as well as provide information to readers, and to instill a sense of identity, belongingness and patriotism amongst them.

Essentially, drawing refers to the skill of making pictures or designs with a drawing tool such as pen or pencil. It is a formal artistic creation which serves as a means of visualizing ideas, a production of a successful planning as well as an interactive tool between draftsmen and their environment (Encyclopedia Britannica, 2007). Drawing is also described as a picture drawn by hand and printed in books or magazines or the use of lines to represent forms on a surface to create images. The debate on what constitutes drawing includes the idea that drawing is the root of all visual arts (Bommer, 1999) and drawing as the basis for furthering all other works of art, and hence the foundation for all works of art, as well as a finished art work (Mitter & Howze, 2007).

Bommer's (1999) explanation emphasizes the idea that visual art started with drawing of outlines to form preliminary sketches before other works of art were executed whereas Mitter and Howze (2007) consider drawing as the basis for furthering other works of art. The latter explains that when drawing reached its peak between 1525 and 1600 BC, it was mandatory for artists under training in the Bologna schools to first draw before they could proceed to paint, etch, sculpt or undertake any other form of art. In this regard, Merritt as cited in Douet, (2000) describes her drawings as never done when the first preliminary sketches she considers "discoveries" are not executed.

The New Encyclopedia Britannica (2003) and Microsoft Encarta (2007) agree that drawing is the foundation for all works of art and at the same time a finished art work, implying the dual purpose of drawing as a starting point for all visual arts while also constituting complete works of art. As preparation for other practices and an end in its own way, the World Book Encyclopedia (2001) views drawing as a means of advancing other art works and simultaneously constituting complete works of art. Although artists rely on drawing to pursue other types of art, drawings are autonomous works of art (Wilson, Hurwitz & Wilson, 1999). Drawing may be termed complete works if the principles of accuracy, detailing and precision are adhered to or as preliminary works for furthering other arts depending on the intentions of the artist (Douet, 2000).

a) Functions of Drawing

The principal understanding of drawing as a way of recording what artists see about themselves and their environment is widely held. Drawings serve many natural purposes such as teaching aids to intercede between the conceptions of "apprentices" or "students"

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and a master's finished works (Wilson et al., 1999), hence a tool for education. Drawing is also meant to achieve an imitation of existing references in nature, to track down the illusion of visual experience of the material world, and communication of multifaceted intellectual and spiritual significance (Miller, 2008). Drawing is not only the foundation for all painting but the sketches seen in artists' sketchpads are personal shorthand notes or recordings of their preoccupations with the world about them (Encyclopedia and Irish World Art, 2008).

b) Drawing Techniques

Drawing techniques include an awareness of the proportions of objects in relation to each other, and the shape of the 'negative space'. Full use should be made of the area of support being worked on. Liveliness, depth, and interest can be created with the use of a range of contour lines, both in width and density; as different grades of pencil give a variety of lines. Unless making a contour drawing, the use of shading techniques such as hatching, will add form and texture. To give instant depth to the drawing, the darkest tones visible should be blocked in first. The tones should then be built up, and finally the extreme highlights added to bring the drawing to life (The Free Dictionary, 2007).

Kimon (2001) describes drawing techniques in terms of blind contour, gesture, grisaille, mass, and scribble drawing. Other techniques drawing students can learn to use include outline drawing, outline to suggest light and shade, value drawing, and negative drawing. The use of outline drawing to suggest light and shade is regarded as a technique Vincent van Gogh used to suggest lines as the basis for drawing. In this sense, Mitter and Howze (2007) have cited Van Gogh for adopting contrasting lines to balance light and dark values to produce unified and appealing drawings that showed a wide variety of textures, defined spaces and identified shapes. Drawing Coach (2010) however, encourages artists to use what works best for them, with none thinking that there is something wrong with a chosen method. The choice of one technique over another depends on what is being drawn and how the artist wants the rendition.

c) Observation in Drawing

Observation is essential in drawing as it trains the draftsman's eyes to look critically at details in order to produce something that is honest for the viewer (Encarta World English Dictionary, 2002). Observation involves the principle of painstakingly paying attention and critically scrutinizing an object, event or phenomenon in order to record what is happening correctly. This enables the artist to capture the size, shape, colour, lines and texture of the objects in total precision in order to reproduce them accurately in realistic and abstract drawings (Murphy, 2007). When

drawing, the function of a draftsman's eyes is more critical than what the hand does on paper with the drawing tool (Drawing Coach, 2008). Observation in drawing involves the use of all the senses: hearing records sounds and rhythms or arrangement of pattern on objects; smell records strong or mild scent, good or bad odour of objects; tasting enables recording of bitter or sweet sensation if the object is edible or perceptions of bitterness or sweetness.

While the hand touches the object to feel texture as smoothness or roughness, hotness or coldness, hardness or softness, the sense of kinesthesia perceives and registers heaviness or lightness of objects. Studying objects in totality helps to understand objects before and during drawing. For this reason, any course in drawing must train students' eyes to observe in much detail to enable them produce drawings that are honest representations of what they see. They should also be taught how to observe intensely and what should be observed.

d) Beginning to Drawing

With regards to rendition of drawing, Mitter and Howze (2007) and Ruskin (2009) recommend that drawing should begin by first constructing outlines of the objects or subjects to be drawn but Artists, International Dictionary of Art and Artists (1990) and South (2009) say artists must start drawing by first rendering the values or tones of objects and subjects. Beginning drawing by first creating "lines" or "outlines" as the foundation of drawing reflects the practice of late 18th and early 19th Century artists such as Toulouse-Lautrec, Edgar Degas and Paul Cezanne who used lines to draw before George Seurat's technique of pointillism took away line drawing (Mitter & Howze, 2007). To Ruskin (2009), beginners must begin by drawing even lines slowly and in various directions until the whole of the object or subject is achieved. Drawing Made Easy (2006) also recommends that the teacher places the object to be drawn at a convenient spot near the blackboard and points out the outline of the object for the students to begin to draw.

Drawing can also be done by first shading the different tones of objects and subjects as the Venetian Rococo style artists Jean Antoine Watteau, Paolo Veronese, Giovanni Battista Tiepolo and Francesco Guardi practised (Artists, International Dictionary of Art and Artists, 1990). South (2009) however, calls for drawing to start by executing areas of light, dark, and in-between tones rather than registering the outline of the edges of what is to be drawn. The explanation is that lines or outlines as beginning of drawings only define visible edges and fail to tell anything about light and dark. This is based on anthropological reports on cave art which posit that prehistoric man drew hard and linear lines before filling them with colour, suggesting that there is no hard and fast rule on how to begin drawing.

e) Teaching and Learning of Drawing

Learning is about exploring, conceptualizing, experimenting and interacting. Effective learning therefore comes by exposing the learner to the learning situation (Kochhar, 2004). "Because acquiring drawing skills is appropriate for learning drawing, the teaching of drawing must necessarily follow a logical sequence to enable all learners learn the designed knowledge and skills for drawing effectively" (Kochhar, 2004:200). The premise is that drawing focuses on effective coordination of mind and muscle to culminate in the production of swift and meaningful patterns of movement, which has to be learned. Essentially, learning to draw depends on a gradual laid down process of teaching from the basics so that learners can slowly and consciously build on them to acquire the necessary knowledge and skills to enable them draw accurately (Lee, 2000). The premise is that successful learning through a sequential progression of activities will ultimately lead to students' mastery of knowledge and skills in drawing.

II. Data Collection

The study sought to describe how the teaching of drawing in the Publishing Studies programme in KNUST influences acquisition of requisite skills for career development in book design and illustration and the job market; and the relevant factors that influence first year undergraduate students' decision to specialize in Book Design and Illustration (BDI) and not Printing Technology and Management or Publishing Administration. The rationale was to understand why only 47 students (Year 2=11, Year 3=26, Year 4=10) were specializing in BDI which is perceived as art oriented as compared to 285 in Printing and 223 in Administration. This led to adoption of the qualitative research approach with direct observation to understand how the drawing curriculum is delivered on the programme from Year 1 - 4 for two semesters and in-depth interview of a convenience sample of 34 (representing 73%) of the 47 BDI students (13 were absent on first day of interview) to ascertain the extent to which pre-entry drawing experience and / or the teaching of drawing in Year 1 influenced their decision for career development in book design and illustration.

III. Discussion of Findings

A study of the Year 1 curriculum for the Publishing Studies programme shows drawing as a core course, ostensibly to bridge the knowledge and skills gap between students who enter the programme with and without prior learning of drawing and also ensure equitable distribution of students on its three specialised career paths in the publishing industry: Printing Technology and Management (PTM), Publishing Administration (PA) Book Design and Illustration (BDI).

Courses BI 151 and BI 152 Drawing are studied over two semesters. Course BI 151 Drawing is taught in the first semester whereas BI 152 Drawing is taught as a follow up course in the second semester. These two-credit hour courses were designed to provide adequate knowledge and skills in Book Design and Illustration for career development. Only students who specialize in BDI from Year 2 continue with studies in drawing up to Year 4.

As James (2006) posits, prior knowledge is a significant factor that influences student academic achievement and a powerful determinant of learners' capacity to learn new material. As regards the department's policy of no restrictions in entry qualifications, the study revealed that eight (representing 23%) of the 34 respondents who had no previous learning of drawing but were specializing in BDI as a result of interest and passion the teaching of drawing in Year 1 had instilled in them; sixteen (or 47%) had learned to draw on the Senior High School (SHS) Visual Arts programme; whereas eight had only learned to draw on the programme. Others had acquired the skill through self-tuition which they found adequate for the Year 1 course.

The interviews revealed that nineteen (or 56%) of the 34 BDI students had prior knowledge in drawing up to High School while fifteen (or 44%) of them had no formal training in drawing. This justifies the institutionalization of BI 151/152 Drawing in Year One to provide equal opportunity for all the students to access Publishing Studies programme. The different levels of drawing skills reportedly acquired by the respondents attest to the knowledge and skills deficiency the students had brought to the course. Thus, the teaching of drawing should focus on development of fundamental knowledge and skills in drawing which includes familiarity with the tools, materials and techniques for drawing. Adopting a step-by-step methodology that builds on the level of drawing required to satisfy the Basic Design and Technology (BDT) curriculum for Junior High Schools will make it easy for the 'less able to draw' students to understand drawing and learn the technicalities in the Year 1 drawing course.

There is however, the challenge of differentiating learning activities and assignments to encourage the 'more able to draw' students to extend their learning and not waste time while the lecturers attend to their 'artistically less able' peers. Bridging the gap between the 'less able' and the 'adequately able' may not be as tough as bringing the 'drawing disabled' students up to attain the standard of drawing required to access BDI if they are interested in it. The question that needs asking is: 'what scope of content and studio assignments can adequately address this knowledge and skills gap to enable quality learning and professional capacity building in higher education?' This is an area of further research interest.

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In assessing the extent to which the students' pre-entry education had prepared them for higher education in publishing studies which has no corresponding programme in Ghana's senior high schools, it was realized that nineteen (56%) of the 34 students interviewed had studied art at both Senior High School (JHS) and Senior high School (SHS) and were taught to draw. Of this number, nine (or 27%) reported having been taught from the basics in a logical and sequential order that enabled them to acquire a high standard of manual drawing skill which had adequately prepared them for higher education in programmes that demand drawing; opting for specialization in BDI was therefore appropriate. On the contrary, the other ten (or 29%) reported studying art in JHS and SHS without emphasizing on acquisition of drawing at either level and had thus not been adequately prepared for specialized studies in BDI which demands high level drawing skills.

Although seven (or 21%) of the 34 students reported they had learned to draw through self-tutelage which enabled them to pass their exams and gain entry into higher education, evidence from the interview revealed they had not acquired enough knowledge from the sources they used; they also had no idea what the different techniques of drawing were and therefore rated themselves ill-prepared for studies that demand drawing, including BDI. Interestingly, eight (or 24%) of the 34 students had never learned to draw; their motivation for specializing in BDI stemmed essentially from the interest and passion for drawing they had developed from the Year 1 drawing course. This suggests the need to encourage effective teaching of drawing within the pre-university Visual Arts programme to generate sufficient interest in drawing and thereby encourage more students with the relevant skills to opt for tertiary education in publishing studies and specialize in book design and illustration to sustain the book sector of the publishing industry. Although skewing admission to favour applicants with good passes in Visual Arts could improve intake into BDI with more 'drawing able' students and promote career development in book design and illustration. this could also deny the 'less able but willing to learn' applicants the opportunity to develop their creative potentials through BDI.

a) Specializations in BDI

The study found that the Book Design and Illustration (BDI) consists of Book Design which involves intensive application of computer software such as Photoshop, Corel Painter, Adobe Illustrator and Corel Draw for book designing; and 2) Book Illustration which involves manual drawing of objects using assorted drawing tools and materials and requires exercises in critical observation, hand and eye coordination, drawing and shading techniques, for example, to execute a variety of drawings required for illustrating text in books and other printed materials. Of the two components, nineteen (or 56%) of the 34 students were specializing in Book Design mainly because they had inadequate manual drawing skills unlike twelve (or 35%) who were majoring in Book Illustration by reason of their ability to draw well; the remaining three (9%) were specializing in Design but wished they had opportunity to study both aspects of BDI.

Having 56% of the 34 BDI students majoring in computer-aided book design as compared to 35% in manual drawing for book illustration implies that the teaching and learning of art in the Basic Design and Technology and Visual Arts programmes in JHS and SHS respectively are not providing enough capacity for higher education in publishing studies. The disparity between career development in book design and book illustration makes it imperative for the lecturers responsible for delivering courses BI 151 an BI 152 to adopt a back-to-the-basics, step-by-step process of teaching drawing in Year One to generate interest and encourage more Year 1 students on the Publishing Studies programme to opt for specialization in BDI to boost the publishing industry.

To Hailikari et al. (2008), it is beneficial for students to develop an integral framework from the start of their studies as good quality learning forms an important basis for future learning. Besides, it is not possible to assimilate new knowledge without having some structure developed from previous knowledge as effective learning proceeds primarily from prior knowledge and only secondarily from presented materials. Furthermore, Mednick (2006) postulates that any effort to teach from the negative must necessarily provide a path into the subject for the learner with respect to that learner's previous knowledge. Undoubtedly, students who lack prior learning in drawing will find it difficult following lessons and learn enough to explain text through appropriate illustrations that communicate effectively to facilitate understanding.

To facilitate effective acquisition of good drawing skills, Kochhar (2004) recommends teaching through graduated tasks of generally low level difficulty to complex content that is more difficult to learn. This strategy will encourage more Year 1 students to acquire the relevant skills that can help them to progress through the Book Illustration option of BDI to enable them manually execute appropriate and effective illustrations for books and other published literary materials.

When asked to rate the standard of teaching they experienced from Year 1, nineteen (or 56%) of the 34 BDI students interviewed said the experience was just adequate for them to satisfy course requirements while three (or 9%) reported high quality teaching for the purpose; six (representing 18%) said teaching had been good enough to enable them improve upon their drawing skills. Interestingly, the six remaining students

(or 17%) of the 34 students rated the standard of teaching average with the view that the drawing skills they brought to the programme had only marginally improved. The implication is that the teaching of drawing from Year 1 of the publishing studies programme should start from simple activities that can be gradually scaled up to difficult tasks to enable the students understand drawing and also improve upon their knowledge and skills towards attaining excellent draftsmanship in book development.

With regards to why the BDI students fail to attain good drawing skills, half of the students interviewed said they do not understand what is taught them in drawing; 24% saw drawing as a 'difficult to learn' subject and although they strive to do well, they get discouraged by unpleasant comments their drawing lecturers and colleague students make about their drawing abilities. It was also realized that intense competition among the 'more able' and 'less able' to draw students during classes make it difficult for many of the 'less able' students to concentrate on the teaching procedures or openly exhibit their drawings; this prevents them from grasping the essentials of drawing that facilitates effective learning in class. Considering that not all the students had previously learned to draw and had the foundation for Year 1 drawing to build on and address inequalities in knowledge and skills in drawing highlights the need for teaching to proceed in a sequential manner so that all the students can become proficient in drawing to ensure equity distribution of students on the three options of the programme.

This reflects Franzoni and Assar's (2009) call for teachers to adopt small orderly steps that are logically associated to the problem being solved and a step-by-step student-centered approach that is guided by understanding of the theory of multiple intelligences (Giles et al., 2003 as cited in Agbenatoe, 2011) and ensure that instruction is not inappropriate to the learning styles of students who are not learning (Hampton, 2009).

When the students were asked whether their level of knowledge in drawing would gain them employment as professional book illustrators, twenty-two (or 64%) of the 34 students said no, with the reason that they had not attained enough drawing proficiency for that purpose. They had not even developed sufficient interest in drawing to desire employment in illustration. The students insisted that those who want to attain advanced skills in drawing would need extra tuition to upgrade their drawing skills after graduation. However, the students who affirmed they had gained all the knowledge and skills they need in drawing regarded themselves as professional illustrators even before graduation.

The fact that 22 of the 34 BDI students interviewed did not report efficacy as professional illustrators suggests inadequate preparation for employment after graduation. The implication is that employers who accept graduates of this aptitude would have to employ or contract other illustrators to provide their manual drawing needs. As Weber (2000) indicates, students sometimes have difficulty understanding what is not related to their personal experiences and cultures because they lack the appropriate prior knowledge of the topic, or they do not know how to tap into relevant knowledge they do have. Research shows that students have varying learning styles, and that no single teaching style accomplishes all students' needs (Downes, 2010) and that many learning problems occur because there is a mismatch of learning styles between those offering instruction and those receiving it (Gardner, 2005). Adopting a variety of teaching strategies and a step by step methodology would ensure that all the students acquire adequate drawing skills to fulfill course requirements.

IV. Quality of Students' Drawing

The following sections describe data collected through direct observation of teaching and learning sessions across the four year levels and the difficulties that the students encountered. Figures 1- 2 are samples of drawings by Year 1 students.
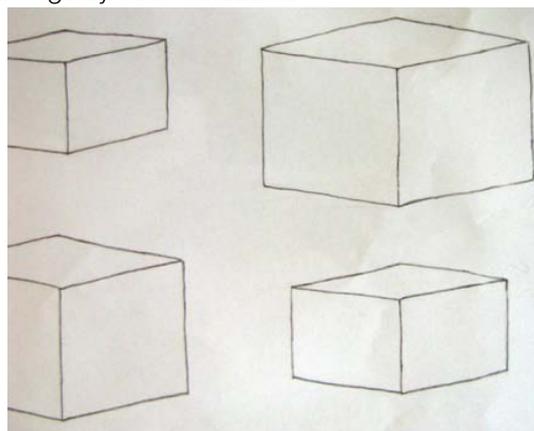

Figure 1 : Outline drawing of boxes

Figure 2 : Mass shading of self portrait

a) Key difficulties identified

1) Incorrect holding of the drawing tool (pencil in this case), friction between the students' wrists and the drawing surfaces , and lack of control over the drawing tool inhibited free movement and resulting in creating crooked lines in Figure 1.

2) The mass shading technique in Figure 2 was executed from memory and not from the critical observation.

Drawing in Year 2

Figure 3 : Human skull

Figure 4 : Human nose

b) Key difficulties identified

1) Mastery of drawing tools and materials had not been achieved in view of the limited use of drawing and shading styles seen in Figures 3 and 4.

2) The strokes of the pencil reveal inexperience and lack of confidence of the students. The drawings show stiffness of the hands that held the pencil; they had not learned to relax the wrist muscles to achieve accurate drawings.

3) Of the many drawing and shading techniques, only outline drawing and mass shading techniques were used up to this level.

4) The drawings suggest lack of skill for critical simultaneous observation and drawing, hence, they had difficulty coordinating their hands and eyes.

5) As a result of the difficulties the students encountered, they resorted to tracing from printed materials as seen in Figure 5 and Plate 1.
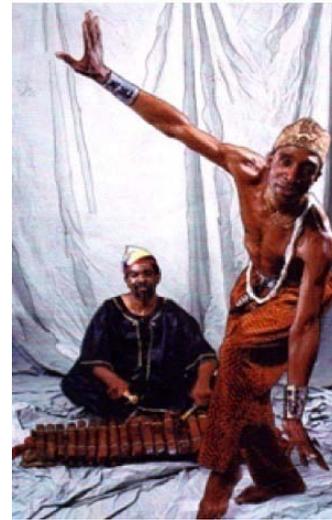

Plate 1 : Printed photograph

Figure 5 : Tracing of the printed photograph (Plate 1)

6) It is seen that the traced copy (Figure 5) of Plate 1 lacks originality although it is a good rendition of the photograph since it captures most of the details of the figures depicted in the original. However, copied illustrations could lead to infringement of copyright laws.
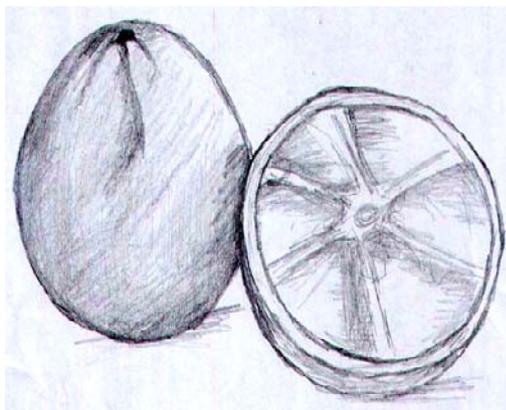
Drawing in Year 3

Figure 6 : Drawing of oranges

Figure 7 : Drawing of a squatting figure

c) *Key difficulties identified*

1) The drawn figure is squeezed into the space provided which depict limited sizes and proportions shown in relation to the observed subject; whereas drawn oranges in Figure 6 are disproportional. The drawings show the use of multiple lines.

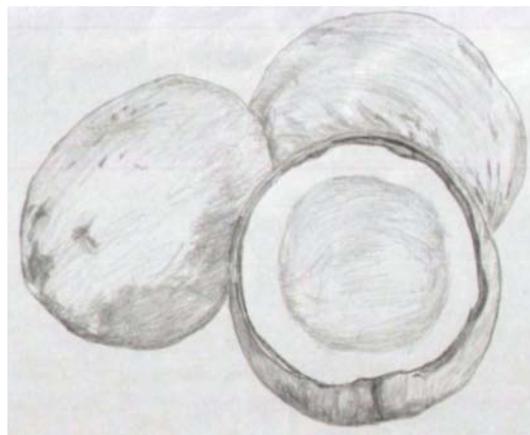*Drawing in Year 4*

Figure 8 : Shading of figure in pen

Figure 9 : Mass shading of coconuts in pencil

d) *Key difficulties identified*

1) Details on the subjects and objects could not be registered and the proportions shown in the drawn images are poor and inaccurate.

2) These are very simple drawings that show little improvement over the Years 1, 2 and 3 works.

3) The students have not explored and mastered the different drawing tools, materials, drawing and shading techniques. The students mostly worked in only one medium (pencil) and surface (cartridge papers).

Overall, observation of the students' drawing revealed little improvement between Years 2 to 4. All the works were rendered realistically, which made it easier to compare the four sets of drawings. Fundamental drawing problems identified in the students' drawings suggest insufficient skills development by the students to attain the right foundation needed for good drawing in Year 4. They need copious exercises in still life, anatomical and landscape drawing to hone their skills from Year 2 for the advanced level drawing required for book illustration. This is not to say that all the students experienced difficulties; ..... those who had prior learning of drawing tackled their drawing tasks with ease at the various levels and seemed to know what to do at each stage. Nonetheless, the drawing lecturers must look out for students who have peculiar difficulties and deal with them on individual basis or adopt peer - tutoring techniques where the ' well able' drawing students can be assigned to help the 'less able' students to resolve those problems.

Pencil and pen were the commonly used tools by the students for drawing on white cartridge paper which limited acquisition of knowledge about the variety of drawing tools, materials and supports that are available for the teaching and learning of drawing. They were not given opportunity to test other drawing tools to enable them determine the distinct marks and characteristics (such as quality, range of marks and tones) of the different tools and how they affect the quality of drawings they produce. The students seemed

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not to have understood how the elements and principles of design work and are incorporated to blend the separate components of objects into the required composition.

Another obstacle to effective drawing was the students' inability to hold the drawing tool correctly to execute the class exercises. Learning the correct handling of different drawing tools could help the students to understand the advantages and disadvantages associated with each hold and the specific drawing tasks the various positions enable the tasks to be executed. Mastering how the pencil should be held would have enabled the students to produce free flowing lines instead of the multiple crooked lines that result when the hand rests on the drawing surface. It could have also helped them to shade accurately. The students were also not taken through any preliminary hand and wrist exercises to relax their muscles before attempting to draw. This led to the drawing of multiple shaky lines. The strokes of pencil in their drawings show inexperience and lack of confidence.

Moreover, the students were not trained to critically observe the natural forms of objects they had to draw as a pre-requisite to understanding how to render the characteristics of the objects accurately on paper. They also lacked the skill of simultaneous looking and drawing of the objects in order to register continuous freehand drawing of lines while looking off the drawing support. To avoid this many of the students resorted to tracing out images from photographs and other printed materials and adoption of drawing via outlines and mass shading.

V. Conclusion

The study shows that dissimilar educational backgrounds of the students admitted into the Publishing Studies programme in KNUST vis-à-vis inclusion of drawing as a core course in the Year 1 curriculum poses a major challenge to the teaching and learning of drawing, and the sustainability of the Book Design and Illustration component of the programme in particular. The key challenge is that drawing is studied by Visual Arts students only so expecting students with Science, Business and General Arts backgrounds to learn to draw and attain the standard required for rendering text as illustrations from Year 2 is inconsistent with educational practice in Ghana. Prior knowledge is a powerful determinant of a student's capacity to learn new material and a condition for successful learning (Kocchar, 2004; Mzokwana, 2008).

Without the relevant foundation knowledge and skills to build on, some Year 1 students might experience psychological problems and intrapersonal conflict (Larson & Mildred, 2002) as they strive to fulfil course requirements. This might stifle their motivation for learning and thereby shun the BDI option of the programme. However, effective step-by-step teaching

that starts from the level of Junior High School drawing could sway some students to opt for BDI and excel. As indicated earlier, ability to draw is a crucial factor that Year 1 students consider in their choice of programme options, particularly with respect to BDI which the students perceived as suitable only for Visual Arts students. The premise is that 23 or 67% of the 34 students surveyed brought previous learning experiences in drawing to the programme and were also specializing in BDI.

Unfortunately, inadequate drawing skill is driving potential illustrators in BDI into design which hinges on computer software applications for illustration simply because they have limited technical drawing skills for manual illustration. A more systematic instructional strategy that starts with the fundamentals of drawing and proceeds through an intermediate stage to an advanced level in Year 4 could address the disparities and provide all Year 1 students with a firm grounding in drawing. This would eliminate the frustration that drives potential BDI students into Printing Technology and Publishing Administration. The few students who develop interest from Year 1 drawing could also use the drawing sessions to develop their creative potentials and ultimately widen their career choices.

As the study revealed, only 47 or 8.5% of the 555 undergraduate students studied in Publishing Studies were specializing in Book Design and Illustration which is perceived as the only art-oriented career option as compared to 508 or 91.5% in Printing Technology and Publishing Administration. To have only 12 out of 34 BDI students majoring in Book Illustration because they had a high standard drawing skills to major in hand drawn illustration while inadequate drawing skills had confined 22 students to major in computer - aided Book Design suggests the possibility of Book Design and Illustration phasing out for lack of patronage. This also suggests the need to skew entry into the programme to admit more Visual Arts students to support BDI and scaling down the content of courses BI 151/152 Drawing to the level of drawing in Senior High School Form 1 to channel more Publishing students into BDI from Year 2. The large population of Year 2 – 4 students in Printing Technology and Publishing Administration can thus be attributed to lack or inadequate drawing skills required for hand drawn illustrations.

For two lecturers to teach 47 mixed-ability students to attain the high standard of drawing skills required for illustrating text manually or by computer could be overwhelming. The drawing lecturers cannot achieve everything single handedly and adopt differentiated instruction strategies to meet individual learners' needs, learning styles or interests. This challenge could be addressed with the introduction of Learning Support Assistants (Stanfield, 2009) who could use their creativity to help with the monitoring, supervision and control of the different categories of

students for effective teaching and learning of drawing. The LSAs could also help to instill a can-do attitude in the students and provide tutorials to motivate them both in class and independently to develop good drawing skills through continuous supervised practical exercises and assignments on a sustained basis.

Peer teaching (Boud, Cohen & Sampson, 2001) could also be adopted to engage the 'more drawing able' students to share their ideas, knowledge and experiences on drawing to support and encourage their peers in small groups to do well. This process of linking high achieving students with low achieving students in the classroom will enable the students help and mentor their peers under the supervision of the lecturers. The LSAs or Teaching Assistants (TAs) as they are addressed in KNUST, could consistently monitor and review the students' progress in drawing in conjunction with the drawing lecturers to ensure successful learning for all the students. The TAs could consistently monitor and review the students' progress in conjunction with the class teacher. With a little support and assistance, weak students in the drawing class would be able to succeed. This will free the lecturers to plan and implement differentiated teaching and help the 'less able to draw' students without neglecting the 'well able' students. Inculcating the right attitudes to drawing would enhance the teaching and learning of Book Design and Illustration and the students' marketability and suitability for the publishing industry while also sustaining the specialized career option of this unique programme in Ghanaian education.

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