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Integrating 21st-Century Industrial Expectation into the HND Graphic Design Curriculum: Linkage with Key Partners for Engagement

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Author's contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

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ABSTRACT

The nexus between academia and the world of work determines the work readiness of graduates. The purpose of this study is to explore the linkage between the Higher National Diploma (HND) graphic design programme (GDP) and the graphic arts industry. The study utilized qualitative evaluative case studies to gather data from a face-to-face interview and focus group discussions for an in-depth understanding of the phenomenon. Both the purposive and snowball sampling methods were used to gather 30 respondents from faculty members, graduates, and industry-based supervisors of the HND GDP in Accra, Tema, Winneba, Takoradi, and Kumasi. The result of the analysis indicates that the experiences gained by HND GDG are dependent on Competency-Based Education and Training (CBET), the availability of experienced industrial trainers and lecturers for mentorship, modern facilities, teaching, and learning materials such as a cohesive curriculum. The study supports proper collaboration among key stakeholders in the HND GDP for cross-fertilization of ideas, open-mindedness, and receptivity. Therefore, developing trends is the most effective way to improve pedagogic processes.

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1. INTRODUCTION

Competency-based training (CBT), an aspect of Competency-based education and training (CBET), is an important strategy in TVET programmes across the globe. It stimulates the quality of programmes and ensures their sustainability. The aim of CBET is to ensure that learners benefit from an all-inclusive approach to teaching and learning to guarantee relevance to the workplace [1]. The origin of CBT, which dates back to the 1950s, 60s, and 70s, is linked to the era when education was in a downturn in the United States of America [1]. Subsequently, the CBT approach was adopted by the United States of America, the United Kingdom, Australia, Germany, the Netherlands, and Canada as a catalyst for equipping learners with the required competency for socio-economic transformation [2]. CBT, for example, has been approved in South Korea to address skill mismatch through a student-centered learning approach [2].

In Africa and Ghana, the story is not different. The ultimate goal of developing technical vocational education and training (TVET) is to provide the youth with the necessary career skills for socio-economic development [3]. Although technical universities are required to generate industry-ready graduates, training institutes are yet to achieve this goal. Acquah [4] confirmed that this shift was required after 1957, when the country's workforce outgrew its formal employment, resulting in substantial unemployment and underemployment. The Ministry of Education [5] shared that traditional education could not produce employable graduates with the necessary skills. Hence, TVET was placed at the forefront of the government's policies to address both unemployment and poverty.

Traditional university education at the time had different mandates and was not geared towards providing the middle-level technical skills that the industry required. This necessitated the introduction of polytechnic education to fill the gap [6]. However, research shows that the HND curriculum is yet to have a thorough review [1]. The study by Sarpong-Nyantakyi et al. [7] is part of an attempt to change polytechnics to meet industry standards and criteria and to give trainees the necessary competencies to make them job-ready. Nevertheless, it is noted that some HND graduates are unemployed after graduation because they are not work-ready [7]. In light of this, it is critical to assess the value of the HND Commercial Art Programme in Graphic Design (CAPGD). Also, it is prudent to identify its strengths and limitations and provide suggestions to improve its relevance to the world of work.

As TVET has the potential to transfer graduates of higher education into the 21st-century industry, the employability of TVET graduates is critical to the growth of any economy [8]. UNESCO [9] highlighted the importance of a dynamic and robust industrial and commercial environment for the development of prospects, opportunities, and resources. Thus, expediting the delivery of a well-trained, competent, and productive workforce will strengthen industry and commerce and increase productivity in countries south of the Sahara [10].

While highlighting the importance of training people for self-employment and industry, Mohamedbhai [11] portrayed the expectations of TVET programmes as a mix of knowledge-based, career-focused, hands-on, and skill-based education that is necessary to run the productive sectors of the economy as well as develop the nation as a whole. Sarpong-Nyantakyi et al. [12] also emphasise the necessity of giving opportunities for teenagers to improve their skills after graduating from both junior and senior high schools and expressing a willingness to pursue technical education for employment. This, they claim, is what sets technical universities apart from traditional ones.

The former polytechnics were established to provide students with vocational and technical knowledge and skills, thereby employing Ghana's teeming youth, reducing unemployment, alleviating poverty, creating wealth, and generating an economic boom [11]. The TVET is strategic in the delivery of its objectives in terms of method. This organisation is in charge of technical and vocational education (TVE) as well as industry connections in Ghana. The country's private sector development aims to increase skill acquisition for a paid job and extended self-employment [13,14]. It also encourages industrial and socio-economic

development as well as competency-based education and training [2].

The CBT paradigm of teaching and learning began as a pilot programme in early 2004 [3]. Previously, Takoradi Polytechnic was chosen to pioneer CBT programmes for HND Civil Engineering (CE) and HND Fashion Designing Technology (FDT) [15]. Following joint directives issued in 2014 by the National Board for Professional Examination (NABPTEX) and the National Council for Tertiary Education (NCTE), polytechnics were urged to convert all programmes into CBT models of teaching and learning while providing learners with highly practical skills and competencies for industrial expansion and transformation for socioeconomic growth [1]. Currently, HND CE and HND Building Technology (BT) are the two programmes that offer a full CBT curriculum, and they began in 2006 and 2014, respectively. Since its inception, the Department of FDT has only been able to run portions of the CBT programme due to insufficient logistics and manpower [1].

According to AIGA [16], graphic design schools must instill lifelong learning skills in their students in order for them to deal with the field's dynamic nature and ever-changing software. Most higher education institutions in other countries have regularly reviewed their courses to keep up with industry demands. Graphic Design, Digital Imaging Creation and Development, Typographic Skills, Introduction to Visual Communication, Design Project, Leaflet, Magazine Design, and Introduction to Web Design, for example, were out for the 2019/2020 admission brochure. Professional Practise in Design, Photography, English Language, Design History, Entrepreneurship, and Printing were among the others [17].

However, courses such as Spray Painting, Interior Decoration, African Studies, and Traditional Studies are not featured in the current curriculum of developed nations. Instead, among the deficiencies in the current HND GDC were Digital Imaging Creation, Introduction to Visual Communication, Advertising Campaigns, Interactive Media and Implementation, Evaluation, and Professional Practise in Design. Developed countries have extensive experience implementing CBT in their TVET systems, and their curricula place a strong focus on the programme's applicability to the workplace [18].

TVET does not create jobs on its own, but when it is linked to current labour market demands, it becomes advantageous [8;12]. To ensure maximum collaboration between TVET programmes and industry, as well as agreement on future labour market demands, it is critical to include all stakeholders. Adopting acceptable approaches by human resource development experts in the graphic design sector would be appropriate to satisfy the demands of the labour market, given the purpose of TVET to boost socio-economic and industrial growth in this country. Hence, ensuring work-ready graduates requires more than just skills [1].

1.1 TVET Graduates' Expectations in the Workplace

The modern graphic design profession thrives on its employees' life skills and competence. Core subjects, professional skills, learning skills, innovation skills, and information technology (IT) skills are among these life skills that are required for the industry's normal operations [18]. Cognitive skills are "critical reasoning skills that stimulate numeracy and literacy thinking and learning, while "non-cognitive skills, such as soft skills, behavioural skills, or technical skills, indicate personality attributes such as leadership, communication, and trustworthiness that are appropriate for specific occupations requiring accuracy [3].

The GDC, for example, is expected to provide learners with the technical and aesthetic skills required for entry-level employment or even a higher position in the field of graphic design. Hence, the curriculum emphasises design and liberal arts modules on commercial art, computer-assisted design, printing techniques and technology, studio art, and industrial attachment programmes (IAP) to put training into practise.

The graphic business has advanced quickly from traditional brushes and paint to high-tech computers and peripherals for creating computer-aided drawings. It has led to a higher employment rate. Dolce et al. [19] stressed the importance of graduates' competencies aligning with the training institutions' expectations in this regard. To develop the abilities of students, the Technical University Act [20] constrains technical universities (TU) to use a competency-based and practice-oriented approach to delivery. So that institutions will be better

equipped to generate the type of graduates the industry demands.

Graduate unemployment could be attributed to a misalignment of institutional goals and national requirements such as job development and graduate employment [21]. Numerous studies have emerged to provide detailed breakdowns and classifications of specific skills as the desire to improve graduate employability grows. Core competencies, for example, are required to improve graduate employability [22]. Several employment traits need to be inculcated into the primary curriculum to ensure that TVET graduates in Ghana are well-positioned to secure and maintain jobs. Proficiency, entrepreneurship, numeracy, leadership, emotional intelligence (interpersonal), motivation, and mentorship are crucial skill sets for the HND CAPGD [10].

1.2 Competency Abilities

To obtain jobs and advance in a business, employability skills are required [22]. The employability of any graduate is determined by the level of competency required by the workplace. The tertiary education and industry determine which skills are required [22]. The employability of any graduate is determined by the level of competency required by the workplace. The tertiary education and industry determine the tie. Soft skills, according to Otache [22], are dependent on a graduate's ability to acquire and apply both academic and personal abilities to produce positive educational benefits for lifelong learning and employment. Today, graphic design has expanded to include print, advertising, and motion graphics for film and television. There have been significant developments in the graphic design sector. This necessitates educational enhancement at all levels to keep up with the industry's dynamic character [23].

On the contrary, generic skills are transferable core competencies that empower the abilities, knowledge, and experience required to advance in today's workplace [24]. While technical capabilities, communication skills, and personal traits are all part of the curriculum that some HND GDG possess, other graduates are unable to combine certain abilities to their advantage. This helps to explain why some students seek higher diplomas as a stepping stone to other careers [12].

1.3 Competency-based Education Training (CBET)

Currently, TVET programmers incorporate CBT to improve quality and warrant long-term viability in this changing society [2]. CBET's goal is to ensure that students benefit from a holistic approach to teaching and learning for proficiency in the workplace. Consequently, the CBT system was introduced in Ghana by the Council for Technical and Vocational Education and Training (COTVET) to coordinate and supervise all areas of TVET. With the support of the Ministry of Education and partners such as the Canadian Development Agency (CIDA), the Japan International Cooperation Agency (JICA), and the Netherlands Organization for International Cooperation in Higher Education (NUFFIC), efforts were made to improve the quality of TVET education at the polytechnics [3].

NUFFIC aims to modernise curricula in fields such as agricultural engineering, fashion design, building technology, and civil and automotive engineering [1]. Again, the JICA also sponsored a pilot project that focused on specific programmers such as electronics, welding, and plant engineering [1]. Notwithstanding the importance of CBT programmers, only the BT and CE Departments have full accreditation to operate CBT programmers at the HND level out of the twenty-four departments at TTU.

The implementation of CBT is one of the major issues facing vocational and higher technical institutions in Ghana. Although this phenomenon is relatively new in Ghana, it has already helped certain sophisticated countries such as Japan, Germany, the United States, and the Netherlands [2]. Sarpong-Nyantakyi et al. [12] support the JICA's proposal to deploy the CBT teaching style at the former polytechnic level. This is a great step towards empowering the student to shadow a mentor in the workplace.

Furthermore, Nyarko [25] identifies the former COTVET and NABPTEX, now known as the Commission for Technical and Vocational Education and Training (CTVET), the Ghana Tertiary Education Commission (GTEC), NUFFIC, and JICA as being critical to the success of CBT programmes [1]. CTVET, on the other hand, appears to have slacked off in its job

of analysing and assessing HND training programmes regularly. These are expected to allow for a smooth transition of old polytechnic programmes into CBT systems. Boahin [26] concurs that CBT training models do not promote passive learning, memorization, or lecturer-centered delivery [2]. Rather, CBT models are distinctive and progressive, which encourages learners to participate actively in the learning process. Thus, the emphasis is on student outcomes, self-paced learning based on a modularized curriculum, and skill demonstration [27]. CBT's modularized curriculum may be just what HND GDGs need to improve their skills, thus bridging the gap between industry and academia. The study interrogates the gaps inherent in the HND CAPGD curriculum.

1.4 Conceptual Framework Based on Education and Economic Development Theory

Sarpong-Nyantakyi [1] admits that positive changes in the level and distribution of employment determine economic development, which is an important aspect of people's lives. Furthermore, education and economic development are collaborative, as education endows a learner with the knowledge, skills, attitudes, and competencies that produce human capital. As a result, economic development is critical to improving living conditions. This requires appropriate proficiencies and aptitudes to be nurtured and matched with industrial expectations and academic provisions to produce graduates with relevant skills for today's world of work. The link between education and economic development is shown in the following framework (Fig. 1).

Fig. 1 depicts a modified framework by Sarpong-Nyantakyi [1] for HND CAPGD education. To prepare GDC for the job market and national manpower demands, GDC must incorporate both theoretical (40%) and practical (60%) components. Sarpong-Nyantakyi [1] theorises that competencies can be reached primarily by combining education, skills, and the industry to ensure that the skills required for executing tasks on the job are classified through job titles and job descriptions. This is important because it has the potential to keep trainees up to date on industry expectations, preparing them for the job market.

Secondly, the curriculum content does not depict job-specific talents, leading to a mismatch between the skills the sector requires and the skills graduates have. Ghana's economic future is dependent on a practical education policy. This policy benefits the country's students [28]. As a result, this study underlines the vital significance of higher education in society's development and advancement in support of holistic education for human capital development. However, studies reveal that in most Sub-Saharan African nations, education and national development are unrelated [27]. Most technical universities, such as TTU, fail to involve their industrial partners in curriculum development, resulting in inefficiency in the educational system, with the curriculum widely regarded as unrelated to trainee needs, industry wants, and labour market demands. Economic growth has been harmed as a result of this bad situation [10].

A curriculum is the focal point of attention and activity in any educational system; students frequently enrol in a programme to gain information, so what they are expected to learn is incorporated into the curriculum [1].Ghana's educational system is based on a concept that emphasises the development of a well-balanced individual. Following that, the learner develops the necessary intellectual, spiritual, emotional, and physical skills for self-actualization [1]. In light of this expectation, academic programme stakeholders make practical efforts to guarantee that the curriculum's contents are relevant to industry needs. This necessitates the inclusion of appropriate curriculum strategies capable of building and boosting learners' employability in institutions' curricula [29].

In Ghana, tertiary education institutions are required to undertake programmes in the fields of science and technology such as information, communication and technology (ICT) that are of particular importance to the country's development strategy [30]. In 1995, Takoradi Technical University, then Takoradi Polytechnic, established the Commercial Art Programme with options in textiles and graphic design to develop and unleash learners' potential for employment in technical and artistic industries [1].

The main goal of the HND Graphic Design Programme is to provide students with theoretical knowledge, practical skills, and visual

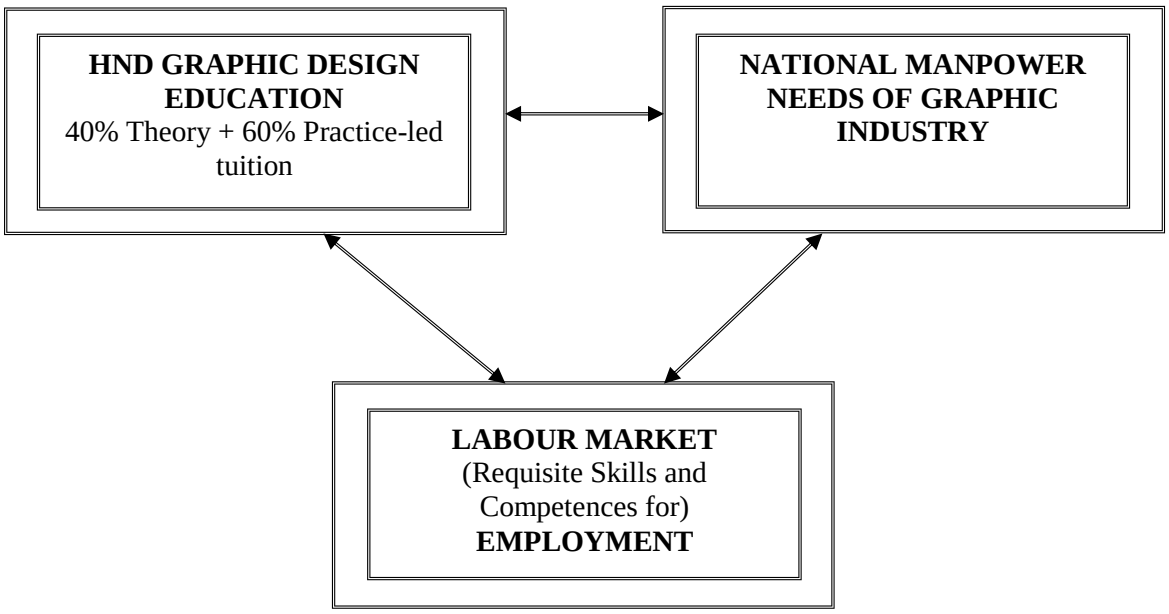

Fig. 1. Researcher's theory on education, human capital, and economic development based on Sarpong-Nyantakyi [1]

thinking in art. This goal is referred to as cognitive, psychomotor, and affective modes of development (Curriculum Development for Graphic Design Option). The following courses are intended to impart theoretical information, contain more intellectual subject matter or topics, and have no or few practical components. History of Ancient Art, Computer Literacy I, African Studies, Traditional Studies, History of Ancient Art II, Computer Literacy II, Communicative Skills II, Design History I, Entrepreneurship I, Design History II, Advertising & Public Relations I, Seminar in Graphics, Advertising and Public Relations II, Long Essay/Project Work, and Entrepreneurship II are the courses with two (2) hour theory and interactive sessions per week.

On the contrary, the practical courses are intended to provide hands-on skills and competence in the curriculum. These are allocated longer practical sections and sometimes one hour for instructions and demonstrations on the timetable. Examples are Elements and Principles of Basic Design, Basic Lettering and Typography, Photography, and Computer Graphics.

2. METHODOLOGY

The qualitative research approach was chosen for the study. This approach provided a systematic description of actions, traits, experiences, and views [31]. The study used an evaluation method to determine the strengths and limitations of the HND GDP in its academic setting [32]. The study conducted one-on-one interviews and focus group discussions with 30 participants from Sekondi-Takoradi (Western Region), Winneba (Central Region), Kumasi (Ashanti Region), and then Accra and Tema (Greater Accra Region) to determine the programme's relevance. Purposive and snowball sampling methods were used to gather 30 respondents from HND GDP faculty members, graduates, and industry-based supervisors in Accra, Tema, Winneba, Takoradi, and Kumasi.

3. RESULTS AND DISCUSSION

The major theme focused on stakeholders' viewpoints on the HND CAPGD Curriculum, with the following sub-themes:

i. The state of the HND CAPGD Curriculum
ii. Gaps inherent in the Curriculum
iii. Deficiencies in the Curriculum Content

3.1 The State of the HND CAPGD Curriculum

Except for a few internal revisions made in the 2013–2014 academic years that are still not comprehensive enough, the Department of Graphic Design Technology (DGDT) has not had

a complete curriculum review since the commencement of the HND GDP in 1995. The modification was done, however, to bring the curriculum up to date with today's graphic design market. For instance, the department replaced Design History I (CAG 260) and Design History II (CAG 280) with Computer Graphics I (CAG 260) and Computer Graphics II (CAG 280), respectively.

Students were introduced to the principles of computer-aided graphic design. The introduction was part of a practical presentation of computer graphics techniques required to follow the basic concepts of design. In addition to these courses, the DGDT again introduced Research Methodology in both the First and Second Semesters of Level 200 to prepare students for PRW 310, Long Essays and Project Work, in Level 300. However, because research methodology is not a graded course at level 200, students do not pay much attention until level 300, when they must produce a long essay or project as part of the HND CAPGD.

A complete examination of the HND Graphic Design Curriculum (GDC) is required to ensure its relevance in a rapidly changing profession. As a result, adequate research on graduates' job outcomes can be used to evaluate the TVET curriculum [22]. This research provided a clear indication of the program's relevance to the industry. Exploring the graduates' constructive perspectives would allow the researcher to track and evaluate the success of the HND Graphic Design training programme and make necessary changes.

3.2 Gaps Inherent in the Curriculum

Inconsistencies in the curriculum of the HND Graphic Design Programme are attributed to a lack of teaching and learning tools. Again, there are deficiencies in curriculum content that impede holistic training. A response from a graduate claimed that:

> Computer-aided design (CAD) software was my first difficulty. We were not taught how to use computer software. Mr. "A" tried to teach me, but I was completely lost. Yes! When it comes to the industry, graphic design is combined with computer-aided design; everything is done on a computer. I believe that computer-aided design will be the most beneficial tool for students (FTFRSP8, personal communication, November 27, 2015, Accra).

Some graduates suggested that certain courses should be updated to include new and current software packages. From a respondent, it was alleged that:

> Takoradi Polytechnic presents a challenge for me because I learned most of what I know on the job. Right now, I'm learning InDesign. I use Adobe InDesign rather than QuarkXPress. I came to this organisation to learn CorelDraw because I didn't fully understand it in school. There may be a significant gap between what is learned in school and what can be applied in the workplace (FGDRSP6, personal communication, November 19, 2015, Accra).

Meanwhile, more than one-third of the graduates said that the curriculum gap was caused by outdated teaching and learning equipment. A respondent shared that:

> Even if the institution is performing well, it needs to improve its curriculum and training facilities. This is because most of the things we were taught, such as the process camera for lithography and printing processes, are no longer in use, yet they are still taught on campus. The image sector is popular in the industry, so newcomers' expertise is restricted and they are unable to cope (FGDRSP1, a personal communication, November 18, 2015, Accra).

It was revealed that teaching and learning activities were hampered by insufficient facilities. According to the graduates' responses, the lack of teaching and learning facilities poses a severe challenge in the training of HND Graphic Design students. Similarly, industry respondents claimed that the current gap in the subject is caused by a lack of cutting-edge technology, which is visible in the majority of TVET programmes in Africa. As evidenced by the following industry response, the comments also indicated that the programme lacked modern, practical components. Another respondent shared that:

> Although the instruction you provide your pupils is excellent, something is missing. They can’t accomplish anything if they can't acquire a PC when they come out. Press

> design differs from what is done elsewhere. When they work in the advertising field and send their works here for printing, it becomes more difficult since they set the work in RGB rather than CMYK, making it tough to set what they want (IND FTFRSP 2, personal communication, November 19, 2015, Accra).

3.3 Deficiencies in the Curriculum Content

Only a handful of the respondents claimed that the gaps in courses such as computer graphics and printing processes were due to a subject-centered approach to delivery. A subject-centered approach to delivery is one of the most common techniques adopted in organising educational enterprises. In this approach, mastering subject matter becomes the focus of the learning experience [33]. Teachers will have little choice but to finish the syllabus and teach only what is in the textbooks if the curriculum is subject-centered. As a result, classes become dull and uninteresting, and students grow inactive and underperform in their subjects. The following comment from the graduate backs up this claim:

> Tuition is not learner-centered; rather, it is rote learning. Students are not able to articulate their understanding and knowledge of questions. What would I say if you asked me about what follows after A and B? Based on my comprehension, I should be able to say C, and according to the lecturer's handout, I am not (FTFRSP 7, personal communication, November 16, 2015, Accra).

A few faculty and industry respondents said that a lack of curriculum had resulted in the graduation of half-baked graduates. According to STF-FTFRSP 3, the HND Graphic Design curriculum is non-operational because it needs regular review to guarantee that students are up-to-date with industrial advances and requires refresher courses to keep students up-to-date with time (STF-FTFRSP 3 personal communication 2016, April 15). These suggestions were strengthened by the following response:

> Almost every attempt in life is driven by technology. It follows that it is critical to examine the two- or three-decade-long curriculum that has been established as the foundation for teaching students to acquire practical skills in order to develop a more refined, technologically oriented approach that will meet the learning needs of today's children (STF-FTFRSP 4, personal communication, April 15, 2016).

However, the industry response indicated that the existing gaps in the topics were due to the lack of existing teaching and learning tools. It was also a lack of ideation in design thinking. As a result, the subjects lack the necessary training experience. This was evident by the industry's responses:

> So, rather than teaching them how to operate a computer, educate them on what it should do. What fonts, colours, and uses must be presented in the background, for example? (IND FTFRSP 1, personal communication, November 17, 2015, Tema).

The response suggests that the graduates are deficient in some key areas that require redress. Graphic design education emphasises creatively mixing design ideas and components in visual communication, not just software application expertise and comprehension. Principles, theory strategy, conceptual design, design development, methodologies, visualisation composition, social responsibility, and application will all be necessary [34]. A graphic designer is a communicator and problem solver and these abilities set him/her apart.

This finding supports Dacre-Pool and Sewell's [35] study, which concurred that the introduction of abilities in the main employability model would ensure that graduates are well-rounded in terms of skills that complement their primary discipline. In light of this, the industrial training programme was established in the former polytechnic system to supplement on-campus instruction and provide trainees with the necessary practical experience to make them marketable [36]. Nonetheless, it is evident that certain HND GDG are unable to demonstrate the essential proficiencies in the field of graphic design. This was due to a lack of generic skills that prohibit them from being completely prepared for the task ahead of them [28].

Meanwhile, Okumu and Bhaale [37] stress that the curriculum reform includes imaginative abilities, flexibility, lifelong learning, teamwork, the ability to manage others, the capacity to work under pressure, strong oral and written

communication for a variety of reasons, numeracy, and the ability to employ new technology. The study finds that emotional intelligence, or social-emotional learning, is absent in schools. Hence, Gulled [38] affirmed that most Sub-Saharan African countries have not grasped the significance of soft skills in preparing graduates for the workplace because policymakers consider them to be untestable and, hence, do not include them in curriculum design.

4. CONCLUSION

Most TVET programmes in Africa have curriculum deficiencies, which affect positive learning outcomes. Feedback from stakeholders indicates that the absence of applicable teaching, learning facilities, state-of-the-art technology, and resources precludes HND Graphic Design students from becoming fully baked and responsive to the industry's prospects. Learner and graduate competency, which are determined by the degree of abilities, experience, and attitudes required to operate effectively in a given industry or profession, is missing. Working out ways to bring academia and the workplace together as partners in knowledge discovery and skill development is so timely. While integration of cross-fertilisation of ideas among all stakeholders' bridge knowledge gaps, a new approach to curriculum design, instruction resource development, and reorientation of purposeful staff is needed. Equipping new technical universities with evolving expertise to optimise basic teaching tools, as well as the establishment of a necessary quality assurance framework is required.

COMPETING INTERESTS

Author has declared that no competing interests exist.

REFERENCES

1. Sarpong-Nyantakyi J. The relevance of HND commercial Art programme in graphic design to the world of work: A case of Takoradi Technical University. (PhD dissertation, Department of Educational Innovations in Science and Technology, Kwame Nkrumah University of Science and Technology, Kumasi; 2020.
2. Gulled YM. Paradigms for contextualizing competency-based curriculum in Africa: Inferences from the OECD Countries; 2023.
3. CTVET Report. Ghana Technical and Vocational Education and Training. Ministry of Education, Accra. 2022.
4. Acquah PC, Frimpong EB, Borkloe JK. The competency-based training (CBT) concept of teaching and learning in the technical universities in Ghana: Challenges and the way forward. Asia Pacific Journal of Contemporary Education and Communication Technology. 2017;3(2): 172-182.
5. Ministry of Education. Education Sector Performance Report 2009; Accra: Ministry of Education; 2009
6. URC Report. University Rationalization Committee Report- subcommittee; 1987.
7. Sarpong-Nyantakyi J, Osei-Poku P, Eshun EF. Exploring the destinations of higher national diploma graphic design graduates in the Ghanaian labour market. International Journal of Advanced Scientific Research and Management. 2020;5(4).
8. Dewan BS, Sarkar U. From Education to Employability: Preparing South Asian Youth for the World of Work. December; 2017.
9. UNESCO. Reforming Technical and Vocational Education in Sub-Saharan Africa; 2006.
10. Okae-Adjei S. Internal quality assurance in Higher Education Institutions: The case of some selected Ghanaian polytechnics. European Journal of Research in Social Sciences. 2016;4(8):58–73.
11. Mohamedbhai G. The importance of polytechnics for Africa's Development. International Higher Education. 2017;88:30-31.
12. Sarpong-Nyantakyi J, Osei-Poku P, Eshun EF. Exploring the destinations of higher national diploma graphic design graduates in the Ghanaian labour market. International Journal of Advanced Scientific Research and Management. 2020;5(4).
13. Mwasiaji E, Kombo K, Nawiri MP, Iloka KM. Critical reflection on resource requirement, pedagogy and entrepreneurship skills training for competency-based curriculum implementation in Kenyan universities. International Academic Journal of Social Sciences and Education (IAJSSE). 2022; 2(3):40-58.
14. Sarfraz I, Mohan Dass M, Hewege C, Rajendran D. An exploration of global employability skills: A systematic research

review. International Journal of Work Organisation and Emotion. 2018;9:63.
15. Alhassan M, Habib AM. The constraints of Ghanaian polytechnics in adopting Competency Based Training (CBT): The Case of a pilot-tested programme. Journal of Education and Practice. 2016;7(24): 178–185. Available:https://files.eric.ed.gov/fulltext/EJ1112929.pdf
16. AIGA. Introduction to Graphic Design; 2020. Available:https://www.aiga.org/globalassets/aiga/content/events-and-competitions/competitions/ 1a_introduction tographic design.pdf
17. Canterbury College. Higher Education Academic handbook for HND Art and Design. Pearson. 2019;1–79. Available:https://www.ekcgroup.ac.uk/sites/default/files/HND Art and Design (Graphic Design Pathway) Academic Handbook.pdf.
18. Amoako KO, Marfo EO, Akwaa-Sekyi EK, Amaning N, Yankey N. Stakeholder perceptions of sustainability reporting on the websites of technical universities in Ghana. Benchmarking: An International Journal, (ahead-of-print); 2023.
19. Dolce V, Emanuel F, Cisi M, Ghislieri C. The soft skills of accounting graduates: Perceptions versus expectations. Accounting Education. 2020;29(1):57-76.
20. GoG. Technical University Act 922, Republic of Ghana, Accra; 2016.
21. Padi A, Dzisi PS, Eshun PJF. Entrepreneurship education in TVET institutions and entrepreneurial intentions of female students in Ghana: The social support factor. Cogent Business & Management. 2022;9(1):2137954.
22. Otache I. Enhancing graduates' employability through polytechnic–industry collaboration. Industry and Higher Education. 2022;36(5):604-614.
23. Appiah E. An exploration of ICT for graphic design education at a Public University: Issues of Ideation and Pedagogy. PhD diss., Cape Peninsula University of Technology; 2014.
24. Comyn PJ. Skills, employability and lifelong learning in the Sustainable Development Goals and the 2030 labour market. International Journal of Training Research. 2018;16(3):200-217.
25. Nyarko, D. A (2011). Polytechnic education in Ghana: The challenges and prospects. Addressed on the occasion of the NAPTEX/POLYTECHNIC meeting Accra. 2011:1-7.
26. Boahin P. Competency-based curriculum: A framework for bridging the gap in teaching, assessment and the world of work. International Journal of Vocational and Technical Education Research. 2018;4(2): 1-15.
27. Dejene W. The practice of modularized curriculum in higher education institution: Active learning and continuous assessment in focus. Cogent Education. 2019;6(1). Available:https://doi.org/10.1080/2331186X.2019.1611052
28. Otunola AO, Olanipekun NO, Alabi AO, Abdulateef AT, Lawal MK. Performance evaluation of Students Industrial Work Experience Scheme (SIWES) in Federal Polytechnic Offa, Nigeria. Asian Journal of Education and Social Studies. 2020;13(1): 13-25.
29. Mitchell R, Rose P, Asare S. Education research in sub-Saharan Africa: Quality, visibility, and agendas. Comparative Education Review. 2020;64(3):363-383.
30. Okolie UC, Nwosu HE, Mlanga S. Graduate employability: How the higher education institutions can meet the demand of the labour market. Higher education, skills and work-based learning; 2019.
31. Nkansah JN. The future of education in Ghana: Critical education for socio-economic development. Journal of Interdisciplinary Studies in Education. 2021; 10(SI):57-78.
32. Frey BB. (Ed.). The SAGE encyclopedia of research design. SAGE Publications; 2021.
33. Yin RK. Case study research and applications. Sage; 2018.
34. Ganesan P, Mani S, Jayanthi CE, Subramanian P, Balakrishnan V, Soundararajan M, Rajalakshmi R. Understanding Disciplines and Subjects Tamil Nadu Teachers Education University; 2017.
35. Landa R. Graphic design solutions. Cengage Learning; 2018.
36. Dacre-Pool L. Revisiting the Career EDGE model of graduate employability. Journal of the National Institute for Career Education and Counselling. 2020;44(1):51-56.
37. McCowan T, Walker M, Fongwa S, Oanda I, Salifu D, Adedeji S, Oyebade S, Ananga ED, Adzahlie-Mensah V, Tamanja E.

Universities, Employability and Inclusive Development: Repositioning Higher Education in Ghana, Kenya, Nigeria and South Africa. British Council; 2016.

38. Okumu IM, Bbaale E. Technical and vocational education and training in Uganda: A critical analysis. Development Policy Review. 2019;37(6):735-749.

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