

THE STATE OF PRINTING EDUCATION AND TRAINING IN NIGERIA'S HIGH-TECH GRAPHIC ARTS INDUSTRY

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Abstract

Digital technologies have brought remarkable changes to the graphic arts industry in Nigeria. The printing industry, being a subset of the graphic arts industry, is now hugely high-tech driven. The paradigm shift has brought new challenges. To succeed in the new printing industry, print professionals now require new knowledge and skills that are not only necessary but pivotal to the successful running of printing establishments. This paper is an appraisal of the training opportunities available to printing students and graduate printers in a rapidly evolving new media environment. The paper makes a case for the branding of printing programs in Nigeria, the review of printing curriculum to meet up with realities in the industry and the need to improve access to printing education in the country. Also, a clarion call is made for the establishment of a printing training institute in Nigeria. The paper concludes that to achieve sustainable development in Nigeria's printing industry; the printing education sector must meet the manpower development needs in an ever-evolving high-tech driven graphic arts industry.

Keywords: Printing, graphic arts, education, training, digital technology

Introduction

The field of printing and graphic arts has seen immense transformation courtesy of digital technologies. From a craft-based trade, the field has indeed metamorphosed into a profession driven by computers and hi-tech devices. In the words of Osmond (1999: 29), the graphic arts industry has been on a fast-moving technological train that does not seem to be slowing down. The same view was reiterated by Faiola (1999) who noted that digital technology has brought about a radical reorganization in the workplace. Consequently, as Lewis and Kanare (cited in Faiola, 1999) highlighted, there have been increased demand on workers' literacy in view of the shift to digital operations. In 2001, a report by Innovation and Business Skills Australia (IBSA) notes that the printing and graphic arts industry is passing through a phase of transformation driven by digital technologies. As a result, the report affirmed, there has been an emergence of new business models as well as opportunities created through an expansion of the traditional printing industry into a wide range of related fields like management, design, marketing and multimedia.

The wind of technology change blowing across the field of graphic arts has also been felt by the

printing industry in Nigeria. As noted by Afolabi (2014) the printing industry in Nigeria is hugely driven by digital technology, resulting in better print quality, faster production and higher profit for print investors - comparable to what obtains at the global level. However, there are indications that the level of manpower training and development for the printing industry in Nigeria is not commensurate with the apparent level of technological development. In an age where knowledge economy is the key word, there is an urgent need to appraise the state of printing education in Nigeria. Such an appraisal will bring to the fore the availability and adequacy of printing programs in the nation's printing education system. This will provide necessary insights for policy makers and stakeholders to put in place policies and programs that will propel the manpower development plan for Nigeria's printing industry. Without doubt, sustainable development can be achieved in Nigeria's printing industry when the printing education sector meets the manpower development needs in an ever evolving high-tech driven graphic arts industry.

A survey of printing programs in Nigeria's educational system

Afolabi (2012) reports that the history of printing and that of printing education in Nigeria are interwoven. The setting up of the Hope Waddel Press in Calabar, in 1846, also gave birth to printing education in the form of apprenticeship. Much later in the year 1854, a Reverend by the name Henry Townsend established another press in the Western part of the country where he also started a school of printing to train pupils at Abeokuta, a city in the Western part of present day Nigeria. Thus, apprenticeship became a feature in Nigeria's print media history – a feature that subsists till present. However, as Adeniyani (2010) records, formal printing education in Nigeria first started in 1952 at the Yaba Technical Institute (which later metamorphosed into Yaba College of Technology) and by 1977 and 1978, the National Diploma (ND) and Higher National Diploma in Printing Technology, respectively, were introduced. At present, printing technology is offered as a course of study or subject area at the following levels:

Polytechnics: Yaba College of Technology, Yaba, Kaduna Polytechnic, Kaduna, Institute of Management and Technology, Enugu, Federal Polytechnic Oko, Kano State Polytechnic, Hussaini Adamu Federal Polytechnic Kazaure, Jigawa and Benue State Polytechnic, Benue.

Vocational Institutes: - The National Board for Technical Education (NBTE) has given approval to certain vocational institutes to run National Innovation Diploma (NID) programme print media related courses. Daleware Institute of Technology, Lagos, and Rocana Institute of Technology, Enugu are prominent institutions running NID programs in printing technology.

Technical Colleges: Technical colleges in different parts of Nigeria offer printing craft practice as a course of study, leading to the award of the National Technical Certificate (NTC) by the National Business and Technical Examinations Board, (NABTEB).

Secondary Schools: the Federal Ministry of education recently introduced printing craft practice as one of the compulsory 34 trade/entrepreneurship subjects to be taken by students at the senior secondary level. The

rationale is to make secondary school education functional and equip students with vocational, technical and entrepreneurial skills to be able to create jobs (Orji, 2013).

The University system is conspicuously missing from the above rundown. At present, no University in Nigeria offers printing technology as a distinct course of study. The closest courses with print related contents can be found in departments of Fine and Applied Arts, Industrial Arts, Industrial design etc.

The focus of printing education in Nigeria

The multi-disciplinary nature of printing gives the possibility of teaching it from varying perspectives or backgrounds. At the global level, some schools teach the design and production process aspect of printing, some others offer it as an engineering course while some focus on the business aspect in the mould of printing management. There are several others with imaging technology or multi-media slant having appellations like graphic communication, media arts and technology, etc. The placement of printing technology programs has been a subject of discourse in the field of graphic arts. For instance, Gencoglu (2013) criticized UNESCO's International Standard Classification of Education (ISED) which categorized "Printing and Publishing" field under "Humanities and Arts". In his opinion, printing books, magazines, brochures, packages and wallpapers are not the artist's business. His position is that printing should be placed under "manufacturing and processing". Gencoglu's argument notwithstanding, one fact that cannot be glossed over is: printing is a multi-disciplinary field and no printing school can train students from a single perspective. The diversity that the field presents should be taken advantage of. What matters is for each school to position itself through its program focus, contents and methodology of training.

In Nigeria, printing schools run programs that are production biased with some sprinkling of general and management-based subjects. As discussed later in this paper, the printing technology programs in Nigeria are not just production process biased but also patterned along the craft approach.

The need for branding printing programs in Nigeria

Another vital observation is that in spite of operating the same printing curriculum, Nigerian polytechnics locate the various departments of printing technology under different schools or faculties. While Yaba College of Technology, Federal Polytechnic, Oko and Benue State Polytechnic place their printing technology departments under the school of Art, Design and printing, other polytechnics like Kaduna Polytechnic, Kano State Polytechnic and Institute of Management and Technology, Enugu locate theirs under the school of Science and Technology. This placement is a matter of convenience; the location of the various departments does not confer much difference in the approach of teaching the programme. All the printing schools in Nigeria teach from a traditional print production perspective. At this point when there are varying forms of needs by the print media and allied industries, there is an imperative to create meaningful differences in printing programmes in order to add value to the industry. This is what branding is all about. Unarguably, there are new areas to be explored in print media, design and digital media. Examples include: publishing, packaging, printing engineering, print and digital media, printing management, print and branding technology, media art and communications etc. These new areas will be suitable as options for the two-year HND programme. Already, Yaba College of Technology has set the ball rolling with the kick-off of her HND programme in Book Publishing.

The challenge of curriculum development in Nigeria's printing schools

Curriculum development for printing education in Nigeria has been a knotty issue due to the constant technological changes the printing industry witnessed in the last two decades. Naturally, technological changes in a technology-driven industry like the printing industry have serious implications for training and workforce development.

In line with preparing graduates that will blend into the contemporary printing industry, concerted efforts have been made by stakeholders in the printing education system in

Nigeria to adjust the curriculum of training to meet the technological needs of the industry. A trip down the history lane of printing education in Nigeria shows that there was an extensive overhaul of printing education (and polytechnic education in general) in April 1980 when a presidential directive prompted all polytechnics and Colleges of Technology in Nigeria to revert to the two-tier system of technician education, leading to the award of National Diploma (ND) and Higher National Diploma (HND). From this development, the 1989 national curriculum in printing technology emanated from the defunct NND Curriculum and Syllabus (NBTE, 1990). As years went by, emerging digital printing technologies made the 1989 national curriculum in printing technology irrelevant to the needs of the printing industry thus necessitating an extensive review of traditional printing courses like lithography, litho printing, etc, and inclusion of digital-based courses like desktop publishing, computer graphics, digital prepress and colour management. At present, the Printing Technology Curriculum and Course Specifications (May 2009) for both National Diploma (ND) and Higher National Diploma (HND) which captures the changes is being used in polytechnics in Nigeria. Afolabi's (2013a) survey of the curriculum reveals that at the ND level, out of a total number of 27 courses that are offered by students, only approximately 4% is management based. Technical/professional courses (print processes related) account for 70% while general courses (communication in English, citizenship education etc) take 26%. At the HND level, the percentage of management courses is 26% while general courses take 9%. The figure for technical/professional courses is 65%. Afolabi concludes that this curriculum is printing production focused. In line with curriculum's goal, it is appropriate for training technical hands for print media organizations but in terms of producing managers and administrators with print media management background, a lot still needs to be done.

Change is a constant thing. Though the new curriculum has only been in use for the third year at the point of this study, there have been calls for another round of review that will diversify and strengthen the existing curriculum. Though the goal of the curriculum is to produce students "with the technical knowledge and skills to

prepare them for employment as printing technicians in the printing industry” (NBTE, 2009), not a few have argued in favour of a broad-based curriculum that prepares students for managerial or entrepreneurial roles in a rapidly emerging knowledge economy. Advocates of this idea seem to have gained the listening ears of the NBTE with the setting in motion of a review system that starts from the various departments of printing technology across Nigerian polytechnics.

Limited access to printing education

The printing industry presents limitless job roles and career opportunities because of its diverse nature. According to Bharti (2008), printing, being part of the mass communication process involves several skills that attract job opportunities in a wide range of areas like publishing, commercial printing, digital imaging, advertising and public relations, packaging, electronic publishing, colour management, security printing, marketing and management, research and development and government establishments. Also, Afolabi (2013b:14) argues that outside mainstream printing industry, trained printers can find gainful employment in digital photography, sales of print equipment, textile/fabric printing, printing ink manufacturing, printing paper manufacturing/sales, information management, media planning, consultancy, etc.

A close look at the opportunities highlighted above reveals a wide spectrum of fields encompassing three distinct areas: creative arts, science and technology, and management. Since the onus falls on printing schools to train in line with the demands of the industry (Wilson, 2001:1), one would expect that printing programs in the Nigerian educational system would cater to the needs of the printing industry. Unfortunately, this is not so. While there has been considerable output of trained hands in core printing technology from polytechnics, as well as creative arts specialists from institutions offering graphic arts related courses, there has been a lacuna in the aspect of training in printing management. The problem, as Afolabi (2013a) observes, is that the printing technology programme offered in Nigerian polytechnics is not broad based thus placing restrictions on prospective candidates.

Stakeholders in the printing education sector argue that chemistry/physics is compulsory for studying printing technology in Nigerian polytechnic because it is science-based and thus requires students with foundation knowledge in science. But that argument definitely holds true only in respect of printing technology as an aspect of printing; the broad spectrum of printing is multi-disciplinary. In the words of Muthalaly (2005);

Printing is challenging as a course as it is multi-disciplinary in nature, encompassing study of science, mathematics, mechanical, electrical and chemical engineering with computer science and management subjects.

Therefore, it is apparent that wider access needs to be created by extending the frontiers of printing education in Nigeria beyond printing technology. Afolabi (2013a) makes a case for improving access to printing education in Nigeria through the development of new printing programmes. He highlighted the compelling need for a degree program in printing management in Nigerian higher institutions. The benefits of such a program, according to him, include:

- One, a degree program in print media management will give access to a broad range of students (science and non-science) who desire formal training in printing,
- Two, such a program, given its vocational nature will, in no small measure, help in reducing the deplorable level of unemployment in the country. Print media organizations, (whether small, medium or large scale, private or public) require managers to administer them efficiently and profitably. Running a successful print media outfit requires more than being a printer with sound technical skills.
- Three, a formal training in print media management is not only desirable but also critical to resuscitating the dwindling fortunes of the printing industry (not just in Nigeria but globally). To run profitably in the new media landscape, print media organizations must have managers who

must possess the right knowledge, skills and competencies with respect to traditional printing processes, information and communication technology, marketing, financial management and business communications, amongst others.

Postgraduate/research programs in printing in Nigeria

The following are the post graduate training opportunities for graduate printers in Nigeria:

Postgraduate courses in printing and publishing: Aside from the absence of a variety of degree programmes that caters to the need of the printing industry in Nigeria, another wide gap begging to be filled is postgraduate training opportunities in printing technology. The only distinct programme in printing technology at the postgraduate level is the Post-HND programme offered by Kaduna Polytechnic, Kaduna. The programme is a full professional diploma accredited by the NBTE. It commenced about five years ago and has three options: printing technology, printing management and Publishing (www.kadpoly.com/printing.html). A related programme is the Masters in Publishing and Copyrights Studies on offer at the University of Ibadan. The programme has a wide range of specializations, one of which is design production. HND graduates of printing technology with post graduate diploma in communication or professional certifications in communication related fields (for example the professional diploma of National Institute of Public Relations or the Advertising Practitioners' Council of Nigeria) can also apply for masters in Journalism and Publishing Studies at Babcock University, Ogun State (www.babcockuni.edu.ng/.../PostGrad..). Also, there is a postgraduate Diploma in Vocational Teacher Education with specialization in Book Publishing and Marketing Education at the University of Nigeria, Nsukka.

Postgraduate courses in media and communication: The field of media and communication is also viable area of post graduate study for interested graduate printers. At the University of Ibadan, there is a Masters in Communication Arts (MCA) programme with an option of study in book development and

publishing. Also, universities like Lagos State University and Pan African University, Lagos offer Post Graduate Diploma and Masters courses in communication that HND graduates in printing technology can undertake to develop and upgrade themselves. While LASU runs a professional Masters in communication studies, the School of media and communication at Pan African University has an attractive Post Graduate Diploma in Digital Media (Design, Production and Management) that promises to be of high benefit to print professionals working in a high technology environment. At the Masters level the university has options in media enterprise and marketing communication which printers can take advantage of. Another opportunity is the National Open University of Nigeria (NOUN) which runs postgraduate diploma and Masters programme in Mass communication.

Postgraduate courses in business management: At the management level, graduates of printing technology can either enroll for the numerous Post Graduate Diploma in Business administration and management, after which they can go on to undertake in the masters in Business administration (MBA) programme or Master of technology (MTech) in management.

Postgraduate courses in applied arts: Postgraduate training in printing can also be domiciled within the field of applied arts. Essentially, printing is a commercial art which is pivotal to the mass reproduction of visuals created by graphic designers. It encompasses graphic reproduction techniques or reproduction methods which are indispensable in the field of applied arts and industrial design. There is a wide array of programmes from PGD, Masters and PhD levels for graduates of printing technology who want to toe the academic line of study in graphic reproduction and printing within the field of industrial design. For example, both the Federal University of Technology (FUTA), Akure, and AbuBakar Tafawa Balewa University of Technology, (ATBU), Bauchi have MTech and PhD programmes in Graphics Design and Technology.

Postgraduate courses in technical and vocational education: Human capacity development in is the backbone of the printing

industry. Thus, training and education gets premium attention. This brings to the fore the need for educationists with bias for printing and graphic arts. In Nigeria, interested graduate printers can get postgraduate training within the framework of the vocational, technical or industrial education system. To get a Masters degree in these areas of study, interested candidates must have obtained a Postgraduate Diploma in Education (PGDE) which is available in virtually all universities, some colleges of education, and the National Teachers Institute (NTI). With a PGD and Masters in technical, vocational or industrial education, graduate printers are eligible for doctoral study in selected Nigerian Universities. Examples include: The School of Technology Education at Abubakar Tafawa Balewa University which offers MTech and PhD in Technology Education. Another example is the M.Ed and Ph.D programs on offer at the Department of Vocational Teacher Education at University of Nigeria, Nsukka.

Moving printing education and training in Nigeria forward

There is a pressing need to think outside the box to align the nation's printing education system with global standards. Some of the strategic needs are:

Establishment of printing training institute: there is an urgent need for the establishment of a printing training institute in Nigeria. The onus falls on the Chartered Institute of Professional Printers of Nigeria (CIPPON) to make this a reality. It has a statutory role in this regard. According to the Chartered Institute of Professional Printers of Nigeria (CIPPON) Act No 24, 2007, one of the functions of the body is to "promote education in the science and arts of printing, bookbinding, graphic design and graphic communication (in all forms) and to encourage students to pursue their studies and practical training to the highest standard attainable" (cited in Afolabi, 2011:181). However, there has been no indication of concrete efforts in this direction more than five years after the birth of CIPPON.

Introduction of degree course in printing and publishing: CIPPON and other stakeholders need to advocate for the introduction of a degree

course in printing technology in Nigerian universities. There must be shift from mere demands and rhetoric that have been the norm on the issue of having a printing course instituted in the nation's university system. All available options must be explored. However, it will be much easier to have such a course starting off as options within Industrial design programmes in the nation's Universities of technology, since they already have frameworks within which printing technology courses can be conveniently kick-started and accredited. Another option is having a printing and publishing program in place on the platform of the distance learning system – a possibility that can be explored through the National Open University of Nigeria (NOUN).

Introduction of journals on print and media technology: there is an urgent need to place high premium on research and development in Nigeria's printing industry. The research and development efforts, packaged in either academic or professional print focused journals will provide intelligence for policy and decision making in the industry.

Conclusion

The printing industry in Nigeria, in line with global trends, is passing through a phase of transformation that is driven by digital technologies. Expectedly, there has been an emergence of new business models. Therefore, the print media industry has witnessed the expansion of traditional printing industry into a wide range of related areas like management, communication design, and marketing and information technology. Consequently, there is an urgent need to ensure that training opportunities in Nigeria's printing and graphic arts industry meet up with industry needs.

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