

The Role of Vocational Training in Bridging Skills Gap in The Building Industry of Nigeria

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Abstract

The level of skills possessed by vocational education graduates for employment has been a worrisome issue in Nigeria. In fact, the representatives of labour markets tagged graduates from Nigerian universities as half-baked perceiving these graduates as lacking in employable skills, making them unemployable. The purpose of this study is to ascertain how partnerships between industries and vocational institutions can be a tool to bridge the skills gap and unemployment of vocational education graduates in Nigeria. The study revealed that industries and institutions partnerships will help to bridge the skills gap and reduce unemployment of vocational education graduates in Nigeria through workplace partnership like resource sharing, staff exchange and the establishment of vocational skills, exhibition centres amongst others. Based on the findings of the study, it was recommended that industries, government and institutions should establish partnership that will help to enhance the skills and chances of employment of vocational education graduates in Nigeria.

Key words: Vocational Training, Skills, and Building Industry.

Introduction

Skills are what an individual possesses which may be learnt informally and/or on-the-job. Skills Gap is the difference in the skills required on the job and the actual skills possessed by the staff. Skills Gap arises when a worker does not have all the skills necessary to do the job effectively. Therefore, skills gap refers to the situation where an industry has workers but they are not skilled enough to meet the organizations' objectives (Jean, 2003). The building industry is growing but it seems the stock of competent skilled construction workers has dwindled (Oduami & Ene, 2011). A skill gap is the shortage in performance. It is the difference between what is required or expected and what we actually get. Put in another way a skill gap is the required performance minus the present performance. Hence, it is also called the performance gap. Basically, a skills gap or performance gap is the difference between the actual or present performance and the optimal or future performance.

Vocational training is an educational training which encompasses knowledge, skills, competencies, structural activities, abilities, capabilities, and all other structural experiences acquired through formal, on-the-job or off-the job which is capable of enhancing recipients' opportunity for securing jobs in various sector of the economy or even enabling the person to be self-dependent by being a job creator. Federal Republic of Nigeria (2004), opined that vocational training is an aspect of the educational process involving in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relative to occupations in the building sector. Manfred and Jennifer (2004), advocated that vocational training comprises all more or less organized or structured activities that aimed at providing people with the knowledge, skills and competencies necessary to perform a job

or a set of jobs whether or not they lead to a formal qualification. These definitions show the relationships between vocational training and skill development towards a sustainable building industry in Nigeria. Common indicators of Skills issues are poor workmanship and building failure. Nigerian cities with the exception of the enclave of the rich and powerful are characterized by poor quality structures, poor layout and streets access, lack of essential utility services, inadequate security, and social services (Alemika, 2010). Apparently, deficiencies exist between the skills of vocational workers and those required to meet the needs and expectations of employers in the building sector which prompt the researcher to examine the role of vocational training in bridging the skills gap that exist in building industry in Nigeria. The skills gap in the Nigeria building industry can be attributed to the dwindling stock of competent skilled construction workers and the influx of unskilled, inefficient and dissatisfied workers who see the building sector as a last resort. Adequate and effective vocational training in Nigeria can meet the highly skilled human resource need in the Nigerian building industry. Skill needs in building sector includes building drawing skills, surveying, landscaping and site preparation skills, foundation skills, ability to use machines for construction, ability to use hand tools for practical work, brick and block laying skills, roofing skills, masonry skills in building, concreting and reinforcement skills, carpentry and joinery skills, final finishes skills and plumbing skills. In recent times, the government of Nigeria through the Federal Ministry of Lands, Housing and Urban Development has shown concern about the present dearth of skilled artisans and craftsmen in the building construction industry. They asserted that artisans and craftsmen constitute an important component of the value chain in housing delivery and essential for the production of well-built, good quality and durable housing on a greater scale across the country. The ministry is using two vocational training centres located in Lagos state to upgrade the skills of this category of tradesmen. The ministry recently completed the renovation and upgrading of its facilities at the Harvey Road, Yaba Lagos training centre and a school of Architectural and Building Technicians is being constructed in Kuje, in the FCT. Efforts are being made by the Nigeria Federal government to establish six more skills acquisition/ vocational training centres in different parts of the country, as well as undertake a review of the curricula for artisan and vocational training in conjunction with relevant institutions.

Apart from skill obsolescence that occurs over time in the Nigerian building industry, there are other factors that cause skill gaps which an effective vocational training would have curtailed. A major factor is the changing pattern of working in building industry. The current trends in the world of work such as globalization, commercialization, flexi-hour, deregulation, outsourcing, contract work, homework and freelancing have led to marked changes in industry structure. New definition, new meaning, and new application of knowledge drive all these changes. New forms of work structures which are flexible, adaptable, less hierarchical, and multi-skilled and which encourage continuous learning are becoming sources of competitive advantage in the building industry. International competition for jobs and workers has also intensified, leading to the global talent hunt for innovation-driven knowledge workers. However, the researcher is examining the role of vocational training in bridging these skill gaps that exists in the Nigerian building industry

Concept of Workplace Training in Technical Vocational Education and Training

Workplace training has been widely recognized as the most efficient method for skills development. According to the Australians, workplace training and learning is the training or learning undertaken in the workplace, usually on the job, under normal operational conditions. Similarly, the European Centre for Development of Vocation, defined workplace training as a form of training that takes place in a workplace based on the principle of learning by doing and includes demonstrations by a more experienced employee, performance under supervision, and coaching, job rotation and participation in specific projects. CEDEFOP further asserted that workplace training can be associated with formal training programmes as well as informal or incidental learning that may or may not result in some form of credential.

The works and training, emphasized the need for learning and practice to be in context, for learning to be effective and meaningful. To these authors, knowledge is situated of which is a product of the activity, context and culture in which it is developed and utilized. This implies that enabling learners to work and learn in stimulating environment can enhance learning. Workplace training can take various forms such as formal apprenticeships which typically involve a contract, lasting for a period of two to four years and leading to a formal qualification or other shorter and often less formal training and work experience programmes for youths as well as training for employees. CEDEFOP stated that workplace training generally involves the use of experts (trainers) who play a leading role in transferring the needed knowledge and skills to the learners or workers. Through workplace training, people are motivated to learn. Uwameiye added that the workplace is the primary location in which the pedagogic values can be appreciated by relating what is learnt to the application and development of identities. Here, learning becomes a natural process that occurs as people participate in the work situation. A key advantage of workplace training is that it provides opportunity for immediate application of the acquired knowledge and skills to the workplace (CEDEFOP, 2011).

In recent years, due to the globalized markets, improved technology increased competition, and as a result transformed demand, the construction industry is suffering from low performance. The project-based nature of the construction industry led us to consider construction companies and the projects as the main components of the industry. Therefore, with an inductive approach, it can be assumed that the performance of a construction company depends on the cumulative success in its construction projects; the performance of the construction industry depends on the cumulative success of construction companies, and the performance of a country's economy depends on the success of its constituent industries, including the construction industry. Therefore, all these components should perform superior performance in order to increase the performance of the countries. Especially, it should be noted that the performance of construction projects and hence of construction companies and the construction industry depend on a great deal on competent project team. However, the construction industry suffers from a shortage of skilled labor. Human resource development is important to gain competitive advantage in the construction industry. In this context, training and development of labour force takes an important place. In addition, dynamic structure of construction industry necessitates various new methods and project types. Also, changeable labour force profile for every project alleviate demand for trained labour force in the construction industry. In this context, the companies can apply two different methods: "on the job training" and "off the job training". "On the job training method workers take pre-prepared courses and they are sent to different workplace to learn their vocation. However, they are not as

much effective as “off the job training” because training expenditure, contracting and lack of worker incentive can be problems for construction companies. One of the important providers of “off the job training is Vocational Education and Training TVE(T) institutions. TVE(T) provides adequately trained labour which in turn may lead to increase productivity that will directly enhance construction company competitiveness.

In addition, equipping the workforce with the skills required for the jobs of today and those of tomorrow is a strategic concern in the national growth and development outlooks of all advanced countries. The need to upgrade skills applies to the current generation of workers. Therefore, building a skill development strategy requires good-quality education and training systems, and reliable performance measurement to sustain efficiency. In this context, considering that delivering knowledge is no longer restricted, traditional higher education institutions, TVE(T) has become an inevitable and necessary asset in the knowledge-based economy era. Consequently, TVE(T) institutions are important in achieving company and industry targets. TVE(T) institutions create competitive advantage for a construction company by improving project performance in terms of reduced cost, better quality, and shorter duration, as VE(T) institutions train construction workers to learn their vocation (Bilginsoy 2003, Tabassi and Bakar 2009). One of the important management tasks in the construction industry is performance evaluation to improve the performance of the industry. Reports emphasized the need for performance evaluation in the UK (Bassioni et al. 2004). As stated above, increase in the performance of TVE(T) in construction industry will cause a direct increase in the performance of construction projects and companies respectively. Therefore, setting a clear set of indicators to measure the performance of education and training systems is important (EC 2010). Therefore, in addition to setting up TVE(T), it is necessary to put in place performance measurement systems. Measuring the performance of TVE(T) is conducive to better education and training programs. Performance evaluation systems provide a mechanism that enables organizations to improve their business (Robinson et al. 2005). Therefore, one of the important steps in the development of a performance evaluation system is the identification of the Key Performance Indicators (KPIs). KPIs represent a set of measures focusing on those aspects of organizational performance that are the most critical for the current and future success of the organization. In designing a conceptual performance measurement system of TVE(T), the determination of KPIs is very important as these KPIs can improve the outcomes of TVE(T) and may encourage TVE(T) providers to engage in long-term and goal-oriented development work, hence facilitating the achievement of the goals set for TVE(T) by the industry.

The relationships between the Performance of TVE(T) Institutions and Construction Industry shows that the construction industry depends heavily on manpower (Awe et al., 2010). In contrast to this requirement, there is a problem to find skilled labour force in the construction industry, labour shortage plays a drastic role in achieving sustainability in construction projects. Because the labour force not only have vital importance on time, quality and cost, but also have an effect on sustainable development characteristics (economic, environment, and social) depending on time, quality and cost. Awe et al. (2010), also performed survey to identify the root causes of Nigerian construction industry's labour shortage. According to respondents, insufficient training methods, non-applicability of apprenticeship according to lack of facilities and lack of incentives are the highest scored causes of labour shortage. Thus, comprehensive vocational education and training is a remedy to the shortage of skilled labour force. Bilau et al. (2015) also summarized the importance of skilled labor force for projects of small and medium construction firms. According

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to the authors, skilled labour force increase quality, productivity and reduce time and cost overruns. Therefore, the authors stated that there is a direct relationship between TVE(T) and construction industry. In Abdul-Aziz et al.'s study (2008), the authors performed a survey to investigate perceptions of TVE(T) trainees. The results showed that industry needs TVE(T) graduates to eliminate worker related problems because the trainees have required ability that meets industry needs. Also, interesting findings from the survey, ex-trainees do not spend too much effort to find work when graduating from TVE(T) centres. In brief, TVE(T) performance depending on nation policies, finding opportunities e.t.c; prevent effective skilled labour force in construction industry according to literature review. So that construction industry that depends heavily on manpower have problem with project constraints for TVE(T) Institutions. Most studies about performance evaluation were conducted by considering only one perspective, namely; finance which causes misleading consequences. Especially for VE(T), which has not only economic benefits, but also social benefits, a performance evaluation based on only financial criteria does not provide a comprehensive understanding. Therefore, in this study, a framework based on Balanced Scorecard (BSC) was developed to reveal all aspects of performance evaluation of TVE(T) by conducting a comprehensive literature survey. The BSC is a strategic planning and management system that connects the dots between big picture strategy elements such as mission (organization's purpose), vision (what organization aspires for), core values (what organization believes in), strategic focus areas (themes, results and/or goals) and the more operational elements such as objectives (continuous improvement activities), measures (key performance indicators which track strategic performance), targets (organization's desired level of performance), and initiatives (projects that help organization reach its-targets). BSCs are used extensively in business and industry, government, and nonprofit organizations worldwide. The concept of BSC was to replace traditional performance systems focusing on only one single financial indicator. The financial perspective is still the core performance criterion in BSC, but three more perspectives are considered, namely customer, industrial process, learning and growth. This model constitutes a balanced performance evaluation and provides comprehensive insights into the effectiveness of organizations. The BSC is commonly used to measure performance. For example, to measure the performance of non-profit small and medium sized enterprise, BSC was used to measure the performance of Enterprise Resource Planning (ERP) operations. The general representation of balanced scorecard (BSC) method is presented in the Framework based on BSC which were widely used in studies about the performance evaluation of educational institutions. For instance, BSC was used to assess the performance of extension education centers in Taiwanese universities, and to evaluate private universities in Iran, and by Al-Hosaini and Sofian (2015) to rate higher education institutions in Malasia.

Benefits of Building Industry in Career Development

Endless Opportunity

With seven out of every 10 jobs available in the United States requiring less than a four-year degree, the current job market is oversaturated with college graduates. By pursuing a craft career, you will be opening yourself up to more possibilities and opportunities. When you complete a technical degree, apprenticeship or craft training certificate, you are highly marketable in the job market. Additionally, with a skills gap and upcoming wave of retirees, there will be a demand for 1 million craft professionals by 2023. This is a staggering deficit, but it makes room for a lot of opportunities for new crafts people, want to know what the job demand is in your state? Take a

look at BYF's Craft Demand Map and check out the demand for skilled crafts by state and by specific crafts.

Variety of Careers

There are so many specialties within the construction industry. With a seemingly endless list of craft careers, there is something out there for everyone, whether you are creative, mathematically inclined or a natural problem solver, there is a craft career for you. In addition to different interests, there are different education requirements for different professions. Have your mind set on a college degree, associate degree or technical education program.

Freedom to Travel

With a high demand for craft professionals in every state, there is no limit to where a craft career can take you. Whether you move around on your own or work for a national or global construction company, there are endless ways to travel around. A career in construction presents the unique opportunity to travel throughout the country and get paid while doing so. Construction happens all around us. It happens in every country, every state and nearly every city. If you are interested in traveling, a craft career is perfect for you. With the opportunity to travel and work across the country or even the world, you can go anywhere you please with a construction skillset. Additionally, when working in construction or building industry, your office is always changing and in a variety of exciting places. Whether you are building a home, baseball park or theme park - you get to enjoy the added benefit of a constant change of scenery.

Room for Career Growth

It is estimated that 29% of the construction workforce will retire by 2026. By 2031, this number worsens as 41% of the current workforce is expected to retire. Essentially, almost half of the workforce will need to be replaced in just over a decade, though this is a frightening number, it puts newcomers to the industry in a good position. As boomers leave open opportunities in the skilled crafts, specifically in high up positions like journeyman, superintendent and project manager, there will be a lot of room for career growth. With the opportunity to continue to move up in the industry, there is no limit to how high a craft professional can go. With experience, expertise and passion - a craftsman could become an executive, CEO or owner of their own company. In construction, the only thing limiting your career growth is your desire to move up.

High Wages

With such a high demand for craft professionals, companies are willing to spend more to get the skills they need. For those in the construction industry, this means they are getting paid higher salaries than ever before. When you factor in these high salaries, less debt and the ability to start earning a wage as an apprentice, craft professionals are getting an early start on making enough money to live comfortably. Each of these benefits alone is enough to make a career in construction worth exploring. But when you look at them together, it is hard to believe they can all come with a single career choice.

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The Importance of Vocational Training for Career Development in building Industry

Skill development and employability

Vocational learning opportunities play a critical role in skill development and employability. The importance of vocational development can largely be summed up as the difference between theoretical knowledge and practical skills. Vocational students often spend hours of their time exploring a variety of different subjects. Their class time tends to be only a few hours per week, as they will spend many hours in the library and on computers conducting research and writing papers that help them continue to build their theoretical knowledge in a variety of fields. Even within their chosen discipline, they often spend a significant amount of time exploring theory, ideas, and procedures used by other professionals in the industry. They have significantly fewer opportunities to actually put these ideas to work compared to students going through a vocational education situation. The skills for work and vocational pathways are significantly limited for these students, as their theoretical knowledge does not have the work experience that helps them transition from a classroom study topic into their actual profession. This can sometimes cause challenges when the students graduate and transition into the working world.

However, for students in a vocational education and training setting, this situation gets corrected. Students spend hours in the practical workshops each week learning hands-on practical skills related to their chosen field. Class time tends to increase in these schools, compared to their outside research time, because students spend more time exploring actual work opportunities that prepare them for their future jobs. They do not focus as much time on researching the theoretical as learning the practical.

Students also have courses that will walk them through chances to use the highly specialized equipment and spaces that they need to do their jobs well. Rather than simply learning about this type of equipment or how it might be useful in the job, they actually have the chance to try out their own skills while still in school. When the time comes for them to transition to an actual job, they have the experience they need to begin the job right away. They will not have to spend time learning how to physically operate the equipment on the job, allowing them to become a valuable employee and build a career faster.

The value of graduating with work skills

When employers look for new employees to join their institution, they know that they want to find someone who has the skills to do the job well and can adapt quickly to the work environment. Businesses spend a significant amount of money trying to onboard new employees, as they must go through a training process and anticipate that there will be a learning curve for the employee on a new job.

Students do not enter the work field with little practical experience regarding the tools and environments in which they will work. Instead, they have specifically worked in these situations throughout their education under the supervision of their trainers. This creates a more favorable employability skills assessment. Potential employers can look at the academic record of these students and know the type of skills they will already have when they first enter the building. This effect can be leveraged even more, when a training institution is applying a competency-based training approach that is mapped with the industry's needs.

For those interested in learning how to enhance employability skills, therefore, the first solution should lie in vocational learning opportunities. These skills can help students learn the techniques and strategies that they specifically need for this area of work and ensure that they are prepared to succeed. Employers can feel confident that the candidates they receive from a quality school already have the experience and training they need to begin work right away.

Finding a Job Following Graduation

Many graduates struggle to find employment immediately following graduation. It can be a stressful time for many students, trying to balance their last few months of studies as they begin to submit applications and search for positions in their chosen field of work. For students who have graduated from a vocational training school, however, this situation can go a bit differently. They have the experience to list on their resume and employers know they have a significant portion of the training they need, often they even have started building a professional network through their job placements and internships they could potentially leverage. This helps to open doors to new possibilities.

Graduates often want to know how they can enhance their employability opportunities. The answer lies in gaining the work experience that employers want to see. Bringing this experience can make it significantly easier to find a job. Experience gives employers more insight into how a candidate will perform on the job and how many resources will need to be dedicated to training a new person for the job. For vocational students, these work experiences become part of the curriculum. Throughout the studies, students gain hands-on opportunities through internships and practical learning opportunities. Completing real work projects, as they do in a variety of classes, helps students build employable resume before they even graduate.

Building Strong Networks for Students before Graduating

In nearly any industry, the importance of a strong network can play a direct role in finding a job and building a successful career. Connections and relationships can help people find new jobs, learn about new opportunities, and have chances to continue their education and build more career-based skills.

Through a vocation-based education, students have an excellent opportunity to build a strong network that will enhance their learning experience and the rest of their professional careers. With a vocation-based training program, students work more closely with their fellow students and their trainers on their coursework. Since less time is spent independently researching and writing papers and more time is spent in class working on projects and learning practical skills, students naturally develop better and closer relationships with their classmates. Their fellow students transition from being people they simply sit next to in the lecture hall into partners with whom they work during projects and internships.

Similarly, students have more opportunities to get to know their professors. With skills-based training, students work more directly with their trainers. The hands-on opportunities they have to work during their coursework let them complete projects, engage with work tasks, and learn specialized techniques under the direct supervision of the trainer. Trainers are there to provide support and students have opportunities to speak with them and engage with more one-to-one time. This builds relationships and can help students find professional mentors for the transition to the

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business world. Through internship opportunities, students expand this relationship horizon into the work world, even before graduation.

Altogether, this type of practical classroom experience helps those learning in a vocational training program develop a strong professional network that will benefit them throughout their entire professional career. They will have people who can provide them with insight and guidance as they build a career and find the jobs they want.

Students Experience Economic Benefits

Students who go through vocation-based schooling also have the chance to receive a variety of different economic benefits from their education. Most importantly, they often do not have to spend as much on their schooling while still receiving an education that prepares them exceptionally well for their field. Vocational schools often have fewer years required to earn the degree of certification and often cost less in tuition each year as well.

Additionally, students who graduate from specialized programs like this can enter their career path faster. Employers know that they already have work experience and training related to their field, which makes it easier to transition into the desired role and takes less of a toll on the business working to onboard them. Students can accept more specialized jobs and earn the applicable salary as well. This combines to create a strong economic opportunity for graduates from vocational programs. Vocational graduates also tend to have a good toolset to raise through the ranks rapidly as they know the trade inside out. Another financial aspect is "earn as you learn" that many vocational training paths offer. Here students have the ability to earn some money and hence reduce the financial impact of their studies through paid internships as part of some curricula.

When it comes to educating students, the importance of building skills-based education cannot be underestimated. Students who attend schools that specialize in teaching them skills that they need to excel in a particular field will find that they finish school well

prepared to enter their chosen field. They gain on-site work experience throughout their education so the transition to the working world is minimal, helping them professionally and financially. The businesses who hire them know that they can count on their new employees to get started immediately in the field and work with a high level of independence and competency, creating a favorable experience for everyone involved.

Those interested in pursuing a vocational pathway for their education and a career in one of the many exciting trade areas these types of schools' service should carefully be considered if the benefits described here will help them in their chosen field.

Conclusions

Non-acquisition of saleable skills has been a major factor in the countries underdevelopment and high rate of poverty and other social vices, for many citizens of the country, these problems are their daily challenges, when they cannot feed, clothe or shelter themselves or their immediate family. They surely cannot realize their full potentials, since the need for survival is so overwhelming and a good number of people have fallen victims to the pressures of survival and have ended up as arm robbers, prostitutes' scammers, or militants fighting for whatever that gives them hope for survival. The failure of the government to reposition the vocational and technical skills

Recommendations

1. The Nigerian government at all levels and TVE(T) policy makers should make a mandatory provision for TVE(T) institutions to establish effective and sustainable linkages with the 21st century workplace. This collaboration could be very useful for practical training of students and therefore facilitating effective skill acquisition.
2. TVET institutions curriculum should emphasize more on work environment habit, inculcating into students in order to make them abreast with the emerging trends in the occupation of work.
3. Adequate monitoring and supervision of SIWES programme should be intensified as well as developing a synergy of information between the TVE(T) institutions and the 21st century workplaces.
4. All stakeholders in the TVE(T) sub-sector should employ the school-workplace collaboration for enhancing workplace training. This will improve the quality of TVE(T) programmes in Nigeria.
5. TVE(T) institutions should encourage and give credit points for students who do long semester holiday placement training in relevant industries in their field of endeavour in order to improve and boost the student working experience for a smooth transition from school-to-work.

References

- Abdul-Aziz, A. R., Jaafar, M., Enshassi, A., & Mohamed Salleh, M. N. (2008). *Does vocational training meet the construction industry needs in Malaysia?* Feedback from ex-trainees of the basic electrical wiring course from training institution. *Journal of Engineering, Design and Technology*, 6(3), 258-268. 2.
- Akhuemonkhan, I. A. & Raimi, L. (2013). *Impact of quality assurance on technical vocational education and training (TVET in Nigeria)*. Retrieved on 4th March, 2016
- Alemika, O. (2010, February 17:34). *Revamping Technical Vocational Education*. Daily Champion. Federal Republic of Nigeria (2004). *National policy on Education (4th ed.)*. NERDC Press, Lagos.
- Al-Hosaini, F. F. and Sofian, S. (2015). "A review of balanced Scorecard framework in higher education institution (HEIS)." *International Review of Management and Marketing*. Vol. 5, No. 1, pp. 26-35.3.
- Alana, O. O. & Bahal, M. (2014). *Entrepreneurship education: A panacea to graduate unemployment in Nigeria*. *Journal of sustainable development*, 16 (4), 35-41. Bassioni, H. A., Price, A. D., and Hassan, T. M. (2004). "Performance measurement in construction." *Journal of Management in Engineering*. Vol. 20. No. 2. pp. 42-50. 5.
- Awe, E. M., Stephenson, P., & Griffith, A. (2010, May). *Impact of vocational training on skilled labour shortage within Nigerian construction sector*. In CIB World Congress (pp. 10-13). African Economic Outlook (2008). Nigeria. Retrieved on 6th April, 2013 from <http://www.oecd.org/document/33/0,3343,en2>.
- Beicht, U., Walden, G. and Herget, H. (2004). *Costs and benefits of in-company vocational education and training in Germany*,

8th International Conference of School of Science and Technology Education (SSTE)

- Bilau, A. A., Ajagbe, A. M. Kigbu, H., & Sholanke. A. B. (2015). *Review of shortage of skilled craftsmen in small and medium construction firms in Nigeria. Journal of Environment and Earth Science*, 5(15). 7.
- Bilginsoy, C. (2003). "The hazards of training: Attrition and retention in construction industry apprenticeship programs." *ILR Review*, Vol. 57. No. 1. pp. 54-67.
- Jean C. B. (2003). *Education and Vocational Training, a Mainstream for All Groups across All Member States*.
- A paper presented at the conference Impulses for European Employment Policy, impulses for Germany BMWA.
- Manfred, T; and Jennifer, W. (2004). *Vocational Education and Training key to the Future*. Greece: Colibri Ltd. C
- Odusami, E.D. & Ene, G.C. (2011). *Constructivism: The Career and Technical Education Perspectives.. Journal of Technical and Vocational Education*, 6(1), 78-92. www.iveta.org/Resources/Documents/about/.../Akhuemonkha n.pptx. [3] Alabi