Building A Safer World of Work Through Entry-level Workers' Education On Occupational Health and Safety

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Abstract

This paper takes a cursory at student's acquisition of Occupational Health and Safety (OHS) skills to prepare them for the transition from school to work. Issues concerning sustainable OHS have been well researched and articulated by scholars and professionals interested in organisational studies, environmental studies and health. Prominent among areas of interests include employers' obligations, readiness and legal issues relating to creating a safe and conducive work environment. However, this generalisation of workers leaves young and inexperienced workers vulnerable. Young graduates experiencing the transition from schooling to working constitute a large portion of the number of people injured or killed at work. This is because entry-level workers are more vulnerable to workplace and occupational hazards than their older or senior colleagues. The problem is not unattributed to entry-level workers' unfamiliarity with workplace environmental risks, their infinitesimal occupational maturity and awareness of sustainable OHS. The paper therefore, discusses a '3-phase-didactic pathway' in preparing final-year students and entry-level graduates to acquire skills and competencies enabling them to cope with risks and hazards in the world of work.

Keywords: Entry-level workers, occupational health and safety, workers' education, world of work, 3-phase didactic pathways

Keywords: Challenges, Housing, Insecurity, Off-campus, Sustainability

Introduction

Man's socio-economic activities and biological lives depend on a safe and healthy ecosystem. These activities often disobey and violate the law of nature while putting human beings themselves at enormous risks. This is why it is widely accepted that people's success, peaceful coexistence and progress on the earth are a function of co-operation between man and the natural environment. However, contemporary discourse and scholarships addressing issues relating to building and keeping a safe world through peaceful co-existence among individual groups, households, firms and industries concentrate more on such issues as the physical and geographic environment and the hazardous consequences of how humans manage or pollute it (Babayemi, Ogundiran & Osibanjo, 2016; Ityayyar & Thomas, 2012); others raise concern about how people can safely live and/or work together on earth by advocating peace with regards to the trending ethnic clashes, religious intolerance and the resultant terrorism (Nwankwo, 2015; Awoniyi, 2013); certain others would be conscious of the life-threatening risks (of different sexually transmitted diseases) involved in human cohabitation (Svodziwa & Kurete, 2017; Oluyemi, Yinusa, Abdullateef, Sunday & Kehinde, 2015); while the military men's perception about world safety may be that of how proactively nations are able to develop and manage Weapons of Mass Destruction, which have moved from atomic or nuclear to biological weapons, first by using these to defend nation's sovereignties as well as territories; and second, by preventing these from falling into wrong hands.

However, since organisations are microcosms of the larger society, building a safer world is not unconnected to building and keeping a safe world of work. In other words, as the world crave sustainable and safe environment, seeking sustainable and hazard-free work environment is not out of place. Thus, world safety may, in a way, begin with living and working pattern of people at home and at work. While others may be concerned with safety from other aforementioned areas of the society, this paper concentrates on building a safe and sustainable world of work through entry-level worker's education and training.

Emphasising the essence of world safety from contexts within workplaces and work communities, Alli (2008) described it as an unacceptable situation where



occupational accidents, injuries and industrial diseases have increased dramatically costing nation's fortunes of human, social and economic resources. The socioeconomic burdens which unsafe world of work brings to individual workers, employers, industries and national economies cannot be overestimated and the rate continues to increase incrementally. It has been demonstrated in the European Statistics on Accidents at Work (ESAW, cited in European Communities, 2009) that 4 million workplace accidents resulting in more than three days of absence from work occurred in Europe in 2005. The ILO (2003), cited in Alli (2008), estimated that 2 million work-related fatalities occur across the world annually while the overall annual rate of occupational accidents and industrial diseases, fatal and non-fatal, is estimated at 270 million (Alli, 2008). Thus, issues of OHS have long been a matter of serious concern to firms, industries and governments both at local and on global platforms.

Although, Occupational Health and Safety (OHS) became a critical issue of concern to managers, worker's union and scholars in Organisational Studies and Public Health during the Industrial Revolution in Great Britain (Obisi, 1996: 197). This concern, especially on environmental sustainability, still trends in today's globalised world. The importance of improving working conditions and safety measures for employees across the globe has thus been perceived as essential attribute of a sustainable and good quality job (European Communities, 2009).

In addition, the concerns about keeping workplaces safe and clean have well been addressed in scholarly articles, government policies and research reports. For instance, the studies of Umeokafor, Isaac, Jones and Umeadi (2014) and studies of Idubor and Oisamoje (2013) have addressed legal issues, implementations, and compliance with OHS laws in Nigeria. Other researchers examined the benefits or effects of good implementations of OHS principles in the workplace in relation to individual employee job performance (Iheanacho, & Ebitu, 2016; Oketunji, 2014), productivity, organisational effectiveness, among others. However, when scholars and policy makers in Nigeria address issues of workplace environment and safety measures as well as how important they are in hazard prevention at work, they seem to place all workers in same category regardless of the status and years of experience of both new recruits and their senior colleagues.

Unfortunately, this generalisation of workers leaves young and inexperienced entry-level workers vulnerable. It has been demonstrated in the study of Laberge, MacEachen, and Calvet (2014) that entry-level workers' unfamiliarity with workplace

environmental risks, their infinitesimal occupational maturity and low awareness of OHS measures are some of the reasons they have been most vulnerable than their senior colleagues. Unfortunately, one cannot point to a tangible direction in university curriculum or educational programme, where education of workers on OHS is provided. There have been a gradual neglect in scholarly discourse and research endeavours on how to prepare final-year students and entry-level workers to develop skills and competencies capable of enabling them to recognise, prevent and manage hazards at work. In addition, the issue about education is echoed in sustainable development agenda of the United Nations. Goal 4.4 of the SDG states that "by 2030, there would have been a substantial increase in the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship (United Nation, 2016). This is why this paper emphasises OHS education and training for young workers as catalyst to achieving sustainable work environment and worker's well being.

Occupational health and safety education

At the front burner of government across continents and countries is the pursuit of seventeen Sustainable Development Goals whereas obtaining quality education is the foundation to creating sustainable development (United Nation, 2016). The relevance of education to national development continues to re-emphasise itself incrementally. Education is the systematic process through which individuals acquire worthwhile and desirable knowledge, skills and competencies that enable them to be fit and useful for themselves and to the society (Abraham, 2006). Occupational health and safety education is, therefore, defined as planned efforts to facilitate the learning of specific OHS competencies in detecting, preventing and managing hazards as well as occupational diseases at work. The definition proposed by O'connor, Flynn, Weinstock, and Zanoni (2015) goes beyond the attempt at transmitting knowledge but recognises the range of efforts designed to engage prospective or employed workers with the goal of affecting motivation, attitudes, and behaviour for the purpose of improving workers' health and safety on the job. To buttress this position, Weinstock and Slatin (2012) submit that workers' training for developing OHS skills should not be seen as means or control for preventing workplace or occupational hazardous, but should be seen as essential tool for bringing workers' knowledge of work processes into the decision-making process about establishing sustainable, healthy and safe workplaces.

From the foregoing, it is deducible that



occupational health and safety education is the processes through which workers (both neophytes and the experienced) are subjected to some curricular activities capable of enabling them to acquire detective and preventive skills about potential occupational hazards and industrial diseases including the coping strategies and series of informed decision-making ability for managing emergency hazard situations or applying necessary first aid measures at work. Since keeping and maintaining a safe and sustainable place of work requires adequate competencies in the use of Personal Protective Equipment (PPE), OHS education helps to optimise the protection potentials of the PPE being used. Weinstock and Slatin (2012) submitted that education and training are an important vehicles for improving workers' understanding about the nature of occupational hazards and industrial diseases as well as the health and safety risks that they pose.

Why OSH education for entry-level workers in Nigeria?

Young or entry-level employees are assets that are very valuable to any organisation because they bring new energy and ideas to the workplace. Unfortunately, this enthusiasm, coupled with an eagerness to please their boss and a lack of experience, can increase the risk of workplace injuries or illnesses (British Safety Council, 2010). Developing educational or training programmes that help them acquire Occupational Health and Safety (OHS) skills to prepare them for the transition from school to work is more than necessary. This is because of the high rate of occupational hazards and industrial diseases that are exemplified in plane crashes in the aviation industry, high rates of motor vehicle accidents, numerous cases of death due to poisoning in the solid mineral sector, frequent accounts of disasters in the petroleum sector arising from oil spills, pipeline vandalism as well as accidents involving petroleum tankers, series of accidents arising from industrial machines accidents, among others (Idubor & Oisamoje, 2013).

Apart from other causal factors like noncompliance with OHS standards and legislations, bribery and corruption in the ministry responsible for enforcement, inadequate funding of enforcement agencies and low level of education of employees are mostly cited to be responsible (Idubor & Oisamoje, 2013; Weinstock & Slatin, 2012). A component of the low level of employees' education is the entry-level workers' unfamiliarity with workplace environmental risks, their infinitesimal occupational maturity and awareness of OHS measures. This is why, apart from the fact that entry-level workers are more vulnerable to workplace and occupational hazards than their older or

senior colleagues (Laberge, et al, 2014; Laberge and Ledoux, 2011; Breslin and Smith, 2005), it is demonstrated in numerous studies that young graduates experiencing the transition from school to work constitute a large portion of the number of people injured or killed at work (The Australian Safety and Compensation Council, 2006: 4). As shown in the study of Breslin and Smith (2006), low work experience, which is common among new recruits in organisations, is more attributable to occupational injury than age or personal maturity of employees.

In the same manner, it was further demonstrated in the study of Sorock, Lombardi, Hauser, Eisen, Herrick, and Mittleman (2001) that many workplace accidents and injuries occur mostly when workers are performing tasks that are unusual to them. The most positive traits of many young workers at work are energy, enthusiasm, and a need for increased challenge and responsibility, which often result in their undertaking tasks that they are not prepared to handle safely. They may also be reluctant to ask questions or make demands on their employers (The National Institute for Occupational Safety and Health, 2010). Unfortunately the educational system and the curriculum that young graduates were exposed to during university days may not have adequately prepared them for the sensitive nature of hazard detection, prevention and management at work. This is why there is need for educational programmes for acquisition of OHS skills among entry-level employees in Nigeria.

The Australian Safety and Compensation Council (2006) further states that there are three basic objectives of workers education on OHS which are:

- 1. To enhance students' understanding of the work environment
- 2. To provide opportunities to develop workrelated skills and increase self-understanding, maturity, independence and self-confidence, especially in the workplace, and
- 3. To strengthen the connections between school studies and workplace activities

Developing curriculum for training young workers on OHS skills

Although, designing and curriculum are not within the scope of this paper as these can be done by experts in curriculum planning and design, it is pertinent to offer some suggestive tips for the design. While workplace-specific training is essential and most critical for all staff in the organisation, entry-level employee also need the opportunity to learn and practise general health and safety skills that will make them fit and able to successfully work and relate with colleagues safely

(NIOSH, 2010). They should be able to recognise, detect and prevent hazards in any workplace.

Apart from this, young workers need to know what to do in emergency situations, the rights they have on the job, and how to speak up effectively when problems arise (NIOSH, 2010) and when they perceive intending hazards at work. To achieve these, special curriculum must be developed and designed to teach core health and safety skills and knowledge, covering basic information relevant to any occupation. There is a need for training activities that will raise awareness among entry-level workers about workplace hazards and industrial diseases and provide them with the basic skills they need to become active participants in creating safe and healthy work environments (NIOSH, 2010). However, in developing curriculum for this programme, it is essential to recognise the importance of including the aforementioned skills in the educational experience

right from university days.

Mapping out the curriculum, it is helpful to reflect or learn from the U.S. Department of Education Office of Vocational and Adult Education (OVAE) that developed a certain Career Cluster Initiative. The initiative may be adopted in mapping out curriculum for OHS education for young or entry-level workers (NIOSH, 2010). Career Cluster Initiative has 16 career clusters that cut across the major jobs available in current labour market. Each cluster may have a curriculum framework with corresponding set of core knowledge and skills that students should master to be able to recognise, detect and prevent workplace hazards at work and even develop strategy for managing emergency situations. The figure below is the Career Cluster:

1. Agriculture, Food & Natural Resources	6. Finance	
Agribusiness Systems	Accounting	
Animal Systems	Banking Services	
Environmental Service Systems	Business Finance	
Food Products & Processing Systems	Insurance	
Natural Resources Systems	Securities & Investments	
Plant Systems		
Power, Structural &		
Technical Systems Architecture & Construction		
2. Architecture & Construction	7. Government & Public Administration	
Construction	Foreign Service	
Design/Pre-Construction	Governance	
Maintenance/Operations	National Security Planning	
	Public Management & Administration	
	Regulation	
	Revenue & Taxation	
3. Arts, A/V Technology& Communications	8. Health Sciences	
A/V Technology & Film	Biotechnology Research & Development	
Journalism & Broadcasting	Diagnostic Services	
Performing Arts	Health Informatics	
Printing Technology	Support Services	
Telecommunications	Therapeutic Services	
Visual Arts		
4. Business Management/Administration	9. Hospitality & Tourism	
Administrative Support	Lodging	
Business Information Management	Recreation, Amusements & Attractions	
General Management	Restaurants & Food/Beverage Services	
Human Resources Management	Travel & Tourism	
Operations Management		
5. Education & Training	10. Human Services	
Administration & Administrative Support	Consumer Services	
Professional Support Services	Counselling & Mental Health Services	
Teaching/Training	Early Childhood Development & Services	
	I	
	Family & Community Services	



11. Information Technology	14. Marketing		
Information Support & Services	Marketing Communications		
Network Systems	Marketing Management		
Programming & Software Development	Marketing Research		
Web & Digital Communications	Merchandising		
	Professional Sales		
12. Law, Public Safety, Corrections & Security	15. Science, Tech-Engineering & Mathematics		
Correction Services	Engineering & Technology		
Emergency & Fire Management Services	Science & Mathematics		
Law Enforcement Services			
Legal Services			
Security & Protective Services			
13. Manufacturing	16. Transportation, Distribution & Logistics		
Health, Safety & Environmental Assurance	Facility & Mobile Equipment Maintenance		
Logistics & Inventory Control	Health, Safety & Environmental Management		
Maintenance, Installation & Repair	Logistics Planning & Management Services		
Manufacturing Production Process Development.	Sales & Service		
Production	Transportation Operations		
Quality Assurance	Transportation Systems/Infrastructure Planning,		
	Management & Regulation		
	Warehousing & Distribution Centre Operations		

Source: Career Cluster, pathways to college and career readiness at https://careertech.org/career-clusters

It is expedient to state that designing a curriculum should not solely be done by the universities. A collaborative effort between the universities and industries will aid development of effective curriculum. This is because it is the team of the employers that understands better, safety and health areas where OHS training are needed. With regards to the areas where training programmes may be directed, the British Safety Council (2010) identified certain key areas to be put into consideration when developing the curriculum. These include:

- The training itself: both induction and on-going training exercise should ensure that young workers are familiar with hazards, control measures and procedures;
- b. Supervision: since there is a world of difference between a classroom and a workplace, there is need for supervision and monitoring;
- c. Communication: this emphasises the importance of a two-way dialogue to ensure young workers' voices are heard and taken note

of; and

d. Empowerment: young workers need to be given the confidence to challenge older workers and managers, and also recognise that they have responsibilities as well as rights (British Safety Council, 2010).

Implementing the OHS curriculum: the 3-phase didactic pathway

In order to build a safe and sustainable work environment through entry-level OHS education, it is imperative to take a '3-phase didactic pathway' in helping young workers acquire skills and competencies that will enable them to cope with if not prevent, risks and hazards at work. The 3-phase didactic pathway' is presented in the table below:

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3-phase Didactic Pathways to Curricular Implementation on OHS Training

SN	Didactic pathway	Method	Periodicity	Institutions in charge
1	Familiarisation with hazards, control measures and procedures	Training students about OHS issues, theories, principles, right to talk and use PPE, among others	During penultimate and final year in university	Universities
2	Application of OHS skills	Through internship, induction and orientation programme for new recruits	From the induction exercise to the last day at work	Industries
3	Inspection and monitoring	Periodic inspection and enforcement of National OHS regulations	Every quarter of a year	Government/mi nistry of labour

Phase 1: Familiarisation: at this stage, the universities' teachers have important roles to play for, at least, two reasons. First, young people in their large scale are within the reach of the faculties. Second, advocacies are cropping up for them toward incorporating work-related learning experiences and programmes into university curricula, particularly during the latter part of the compulsory years of learning in university (Australian Safety and Compensation Council, 2006: 5). During the penultimate and final years of students in school, faculties should expose students to health and safety problems and issues in the workplace, especially focusing on features of work situations that are unsafe for the physical, physiological, emotional, and mental wellbeing of workers. They will learn and understand injuries from machines, hazardous chemical and biological agents, accidents in the course of carrying out a task, stress and associated illnesses resulting from workplace activities. Students in their penultimate year will become acquainted with health and safety laws like the Factory Act and Workmen Compensation Act which detail the financial, medical and rehabilitation indemnifications available for workers with work related injuries and diseases. In their final year, they should be knowledgeable about the central roles of exercising their awareness raising through empathetic and responsive listening in maintaining safe and healthy workplace behaviour. At this stage, they will learn about OHS issues, theories, principles, and right to talk and use PPE, approaches to using First Aid Boxes, among other.

At graduation, students should have been

prepared with knowledge of issues, responsibilities and regulations that will help them for safe and healthy participation in the workplace. They would have been prepared for transition to the workplace with adequate skills, attitudes, values and behaviours that enable them to value safety, act safely, participate in workplace discussions and take appropriate action to protect themselves when necessary (Australian Safety and Compensation Council, 2006: 8). They would have developed understanding on being alert to potential risks and hazards (to others as well as oneself); knowing what to do in risky and hazardous situations, and having the self-confidence to do it, and; being able to minimise risks and hazards, and so make such situations unlikely.

Phase 2: Application of OHS skills: Apart from the fact that employers are mandated by the law to ensure a safe and conducive work environment for employees, it is important for employers to organise an appropriate OHS induction programme for new recruits or interns before the work placement commences. They should have been satisfactorily competent and able to work safely before employers expose them to work. As suggested by Australian Safety and Compensation Council (2007: 4), employers should ensure that new workers have an understanding of:

- 1. their role, rights and duties under OHS legislation, including the right to be consulted about OHS matters that directly affect them
- 2. the statutory obligation the employer has to ensure a healthy and safe workplace for the students and fellow workers, including providing Personal Protective Equipment (PPE) where appropriate
- 3. what to do in an emergency situation and



evacuation

- 4. what a hazard is, and the potentialities of hazard to cause death, injury or disease
- 5. how the risks from workplace hazards are identified, assessed and controlled, and the role that young workers may play in identifying hazards
- 6. the procedures for new workers to follow if they become aware of any hazards
- 7. the reporting of OHS matters such as accidents, incidents and injuries
- 8. how to access first aid and how to complete hazard/incident report forms
- the meaning of the colours and symbols of OHS signs and the importance of complying with them
- 10. what is appropriate behaviour for persons in the workplace and what is inappropriate behaviour, such as workplace violence and bullying
- 11. the tools and equipment that workers are not permitted to use and the activities they must not engage in
- 12. the right to refuse to undertake work activities if they consider them to be unsafe
- 13. the way to communicate their OHS concerns to their workplace supervisors, colleagues or other superior bodies (Australian Safety and Compensation Council, 2007: 4).

Apart from these, employers may also familiarise the new recruits with the more common workplace hazards, such as: manual handling of machineries; slips, trips and falls; noise/vibration; bullying/harassment; stress/fatigue; extended/excessive hours; ventilation; hazardous substances; exposure to disease; contact with electricity; dust/fumes, among others (Australian Safety and Compensation Council, 2007: 4). The employers will ensure that these skills are fully developed in all workers, observed and applied on a daily basis from day one in the factory to the last day in the company.

Phase 3: Inspection and Monitoring: Most often, the problems of education and skill acquisition in Nigeria are usually not lack of good policy or curriculum framework but lack of consistency in implementation and monitoring. This is why it is essential for government, through the Department of Inspectorate of the Ministry of Labour, to be up and doing in their periodic inspection, monitoring and enforcement of labour laws in Nigeria industries. Government needs to combat the bribery and corruption in the ministry (Idubor & Oisamoje, 2013; Weinstock & Slatin, 2012)

which undermines good monitoring and enforcement practices. There is need for adequate funding, training and empowerment of inspectors in the enforcement agencies.

Towards a conclusion for safe and sustainable work environment

As education forms the bedrock of SDG, finding sustainable work environment is better sought through education. Using education as a magical tool for building and maintaining safe and sustainable global environment is, of course, not unconcerned with building a safe and sustainable work environment through education. This is based on the premise that the world of work is a subset of the world at large from within which whatever transpires (be it peace or violence) affects the larger society. Beyond the discourse about employers' obligations, readiness and legal issues relating to creating a safe and conducive work environment, this paper addresses issues about OHS education for entry-level workers to acquire skills and competencies needed in them to work safely in the work environment. Since young inexperienced graduates transiting from schooling to working constitute a larger portion of the number of people injured or killed at work, this paper suggested OHS education, utilising a '3-phase-didactic pathway' in preparing final-year students and entry-level graduates to acquire skills and competencies enabling them to cope with risks and hazards in the world of work and its various environments. Although, the pathway suggested in this paper is not intended as a product endorsement for educational practices because it has not been tested to ascertain its potency, it promises to be an eye-opener for government, educational policy makers and planners, curriculum designers, employers of labour, and university administrators. It is suggested that this pathway, if adequately planned and implemented, will increase workplace environmental sustainability by curbing the increasing pace with which occupational accidents, injuries and industrial diseases is costing nation's fortunes of human, social and economic resources. It will also cushion the socio-economic burdens which unsafe work environment brings to individual workers, employers, industries and national economies. Apart from that, building a safer sustainable work environment through entry-level workers' education will also go a long way in boosting environmental sustainability of the nation and world at



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