

An Ethics Reasoning Approach To Health And Safety In Construction

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Abstract

The legal, business and moral cases for health and safety are promoted as the rationale for companies adopting good health and safety practices in construction. The legal and business cases are limited by compliance to laws that are extant and subject to change and to an equating of business success with profitability, thus subjecting safety investment to successful returns on investment. The moral case has strength in that it is derived from fundamental moral principles concerning what is good, a perspective on health and safety that has longevity. Despite strong and improving legislation in many jurisdictions, commissioned research demonstrating the positive nature of the business case and the good intentions of the industry and its professional advisors, health and safety in construction has not achieved a prevention culture and fatal accidents, serious injuries and illness continue to occur. Focussing on the moral case and how it relates to both compliance with legal duties and maintenance of good business practices, a project was initiated to explore the of foundations workplace ethics and to determine whether these foundations and the practice of ethical decision making was understood by all stakeholders and supported by the key decision makers. Research in the field of educational psychology and moral development indicated that conventional moral reasoning, exercised by a majority of adults, was based on compliance with legal requirements and prohibitions and on adherence to social group norms. Utilising a critical theory methodology to analyse workplace culture on construction sites a new perspective on the complexity of interrelationships on-site was developed that uncovered a range of reasoning processes behind health and safety decisions. An understanding of ethics reasoning addresses the limitations of conventional moral reasoning and underpins a new approach developed by the authors to health and safety education and autonomy in decision making. This paper describes the authors' module on ethics reasoning, developed for construction professionals and which is incorporated into two undergraduate degree programmes.

Keywords: Construction ethics, health and safety, safety decision making

1. Background

1.1. Regulatory measures and improvement

The history of the development of health and safety legislation in the United Kingdom (UK) often parallels the history of significant safety failures (HSE 2014b) which mirrors similar developments internationally, e.g. the Seveso directives in Europe following on from the 1971 Seveso disaster. The legislative approach to OSH proved effective with accidents and accident rates consistently falling since the 1970s (HSC 2003b). Davies and Jones (2005) examining the efficacy of the regulatory approach found a general downward trend in over 3-day injury rates for men and women and downward trend in major injuries until 2000, with an upward trend since. When correlated with the business cycle, it was noted that a 1% increase in the GDP above trend was associated with a 1.4% increase in the rate major accidents suggesting to Davies and Jones (2005) that accident rates increased with the hiring of new workers and with increased worker effort (as in overtime working). Schlagbauer and Heck (2014) have found that increased worker effort leads to an increase in accidents when workers have insufficient rest/recovery time which leads to tiredness and exhaustion, and thus to reduced concentration and physical capacity, and thus to accidents. The ISSA (2010) found an increase in psychosocial risk and ill-health as a consequence of the post 2008 economic downturn and Goh et al. (2015) estimated that there are 120,000 excess deaths per annum in the USA attributable to workplace stressors and how work is managed.

Between 1995 - 2015 the rate of fatal injuries to workers in Great Britain (GB) declined from 1.2 to 0.46 deaths per 100,000, though the Health and Safety Executive (HSE) acknowledge that that the trend since 2008 is less clear, (HSE 2015b). The decline in the rate of injuries has fallen from 2.9 to 0.5 per 100,000 between 1974 - 2014 and the fall in (reported) non-fatal injuries was from 336,701 to 77,310. Half of this reduction is due to changing employment patterns and occupations, (HSE 2014c). The increase in work-related stress and related conditions have been increasing since the 1990s and this may be as much due to an increasing awareness of the conditions as to actual increases due to increased psychosocial risk in the post-2008 period. The sharpest decrease in the fatality rate occurred after the introduction of the 1974 Health and Safety at Work Act and subsequent regulations until 1997, with the rate then reasonably level until 2008 when it dropped again over the two year period 2009/2010 and has again remained level since, (HSE 2014d).

As construction accounts for 5% of the British workforce but 31% of all fatal injuries and 10% of reported major injuries, it is therefore the highest risk industry in the UK (HSE 2014a, 2014e).

1.2. Alternative models for achieving Prevention

In parallel with the statutes a number of theories on occupational safety and health (OSH) and models of good practice were developed, most notably Risk Assessment and Risk Management, which are now internationally recognised approaches to OSH. Other theories, concerned with the failure of regulatory compliance to achieve a prevention culture, examined problems associated

with management practice, worker behaviour (Geller 1998, 2000, Cooper 2000, 2010) and the contradictions between the demands of production and profits and workers' need for employment (McAleenan 2015). Behaviour Based Safety, the outworking of the works of Cooper (2000, 2010) and Geller (1998, 2000) have become internationally recognised and adopted by statutory safety bodies (HSA 2013, Fleming and Lardner 2002) and large corporations (Cooper 2015). In parallel with these developments, the International Social Security Association (ISSA) was advocating the reintegration of OSH competencies into vocational and professional education, (ISSA 2003).

The authors, had developed and were implementing Operation Analysis and Control, a holistic model which promoted a dynamic approach to the management of work activities that focuses on the elimination or control of hazards from the outset of project and activity planning,(McAleenan and McAleenan 2001, 2002).

The development of OAC commenced from the analysis of the limitation of the language of Risk Management and of the safety discourse. The central concept was control and what was necessary to the process of control of work activities on construction sites. The analysis went to the core of human awareness, understanding and perceptions of work and the management of work activities. The result was the negation of risk based approaches to work and project outcomes and its replacement by an approach that respected and utilised the competence of workers who are fully au fait with the requirements of the task, are, with the right resources, capable of achieving them and are in control of their own activities including the safety component.

1.3.Ethical failings in construction

The process of developing OAC entailed, amongst other things, an examination of a number of concepts associated with the moral case for OSH and in particular the assumptions underpinning the discourse of safety leadership and its impact on agency.

Corporate Social Responsibility (CSR), a central ethical and moral issue in the industry, is expected to be a driver for social and environmental sustainability while meeting the requirements of shareholders. Yet within the construction industry, the reputation for unethical practices is regarded as a major contributor to reduced quality and poor safety practices (Hamza et al. 2007 and 2010, Olufemi and Oyedeli 2014, CIOB 2013, Ameh and Odusani 2010), that contributes to accidents and the endangerment of human life (Zhou and Wu 2013). Additionally, the CIOB (2013) found that 49% of respondents believe that corruption is present and that 50% do not believe that the industry is doing enough to counteract it.

In the field of educational psychology and moral development, Kohlberg (1971) and Eckensberger (2007) stated that conventional moral reasoning, exercised by a majority of adults, is based on compliance with legal requirements and prohibitions, and on adherence to social group norms. Focussing on the moral case and how it relates to both compliance with legal duties and maintenance of good business practices, the authors initiated a project to explore the foundations of workplace ethics and to determine whether these foundations and the practice of ethical decision making was understood by all stakeholders and supported by the key decision makers.

Utilising a critical theory methodology to analyse workplace culture on construction sites a new perspective on the complexity of interrelationships on-site was developed that uncovered a range of reasoning processes behind health and safety decisions. An understanding of ethics reasoning addresses the limitations of conventional moral reasoning and underpins the case for a new approach to health and safety training and autonomy in decision making. The aim of this paper is to elucidate the case for an ethics reasoning approach to professional education and describe a project by the authors that led to the development of a module on ethics reasoning which has been incorporated into two undergraduate programmes.

2.Ethics, morals and reasoning

2.1.Definition of ethics and morals

It is useful at this point to clarify a distinction between the terms “ethics” and “morals” as both are often conflated, (Chismar 2004). Ethics is an internal process whereby the individual strives to attain authenticity as a human being, (Žižek 2012) and as such it is a function of Man as a social Being. Morals, specifically moral behaviour, is a function of agency and ethics reasoning and is directed outwards towards others, a manifestation of care for others, (Žižek 2012).

The project recognised the range of moral philosophies that exist and the fact that they sometimes do not sit comfortably with each other despite them being fundamentally concerned with doing good or doing no harm to others. Why this should be so informed the objective of the project; to determine the function and universality of ethics and how moral behaviour is decided, as well as the methodology for exploring this objective. The strength and stability of the moral case for OSH that elevates it above both the business and legal cases required an exploration of the fundamental level in order to explain and supplant the above described unethical behaviours with a rational ethic that permits of objectively and universally “good” moral behaviour.

2.2.Problems with agency in the real world

It can be difficult to reconcile the notion of Agency with real world situations. The competent worker, expected to make work-related decisions based on age, experience and level of skill (Dalton Vs Frenedo, Irish Supreme Court 1977, in Garavan 1997), none-the-less finds him/herself engaged in work where what to do, when to do it, with what resources and even how to do it is often subject to the decisions of managers and supervisors who convey this information to the worker.

In unsafe situations, the legal right and duty not to undertake unsafe work is often also a fiction, known and understood by all but left unstated as this would negate its function as a “legal fiction”. This reflects Hegel’s (in Russell 1996) reflection of Kant’s notion of autonomy where-in the moral agent assumes responsibility for translating abstract injunctions into concrete moral obligations (Žižek 2012). For Hegel (1817) autonomy and the freedom to act stems not simply from following one’s own will, but from there being real world structures that correspond to the structures of the will, i.e., a rational State that respects the freedom of the individual.

In the concrete reality there are many structures within which the moral agent exists but which are less appreciative of moral autonomy or tolerant of agency. The workplace culture described by Schein (2013), springs from the values and beliefs of its leaders is, with its hierarchical structures and heteronomous decision making, reflective of unequal social relations where-in decision making is bounded by production targets and operational necessities. Safety (vision) statements such as “Stop Work” or “Safety First” are bounded by the subliminal messages inherent in Geertz’s (1973) alternative Thick description of workplace culture, which permeates a workplace and can contradict the overt messages that his Thin description describes as being an aspect of a superficial awareness of culture.

A deontological model of site safety has safety rules jostle for position amongst statutory duties, commercial contracts, contracts of employment and professional codes of conduct, creating disharmony and confusion. This model is the outworking of Kohlberg (1971) and Eckensberger’s (2007) “conventional moral reasoning”, a reasoning based on group interests and adherence to societal norms and laws where loyalty to the group or the influences of laws with the greatest sanctions are dominant. Yet construction professionals Codes of Ethics/Conduct conflict with this deontology, advocating a post conventional reasoning based on universal rights and exhorting the professional to exercise their judgments in the interests of wider society (IEA 2015).

OSH is not the sole consideration of professional ethical decision making, but when contextualised with the Universal Declaration of Human Rights (United Nations 1947) the professional has a duty to understand the human rights of the worker and to fully appreciate and implement this obligation to workers, the employer and the client.

2.3.Moral necessity

The moral injunction to do no harm to others is embodied in health and safety laws. Morality derives from culture and embodies those mechanisms that make culture a system of uniquely human controls (Geertz 1973). It is how Man relates to the world and others in it, and from it materialises his self-realisation (Freire 1973), his self-actualisation (Maslow 1943). It is also inherently human, arising from Man’s awareness of himself as a species distinct from other species and within which he recognises others, and himself in others (Fromm 1961). This is the root of empathy in which is found the form of morality that echoes the symmetry between Self and Other (Žižek 2012). The process of ethical development and moral maturing is the process of humanisation (Freire 1973) and defines the practical relationships with others. In its mature form the symmetry of moral action acts to the benefit of all.

The awareness of ourselves and others of necessity entails an awareness of both that which is beneficial and that which is detrimental in human relationships; we either harm or we help, and this is codified in the Golden Rule of Moral Reciprocity, “treat others as we would want others to treat us”. This stands in contrast to the “zero level rule”, “do not do to me what you do not want me to do to you”, (Žižek’s 2012). With the publication of the Seoul Declaration (ILO 2008) a new series of paradigms were prescribed which shifted the focus from accident prevention, the

“zero level rule”, to the creation of workplace cultures that actively contribute to the welfare and wellbeing of workers; the Golden Rule entering into health and safety practice.

In exploring Hegel’s dialectic, Žižek (2012) distinguishes ethics as care for the self, a striving towards authentic being. This concept of ethics parallels Freire’s (1973) concept of humanisation and is at the core of the human ontological project. Human behaviour is the synthesis of internal ethics and external morality and as such the moral case for health and safety stems from necessity, being, as it is, inherent in the relations that exist between people. Thus the ethical failures in the construction industry and the resultant harms are not simply detrimental to workers and organisations but are the antithesis of humanisation and social progress.

2.4. Ethics Reasoning approach to OSH

Codes of conduct and codes of ethics are integral to professionalism. The Engineering Council (EC, 2013) advocates that the professional bodies place a personal obligation on their members to act in accordance with the Royal Academy of Engineering (RAE, 2011) and EC standards and principles. The Joint Board of Moderators (JBM, 2009) has more specific guidelines for teaching ethics and the professionalism expected of students on construction degree courses in the UK.

A number of problems have been identified with the teaching of ethics. Warnick (2010) suggests that the dissatisfaction felt by some professionals in regard to current work ethics impacts negatively on quality, while Strahlendorf (2005 citing Logan 2001) lists economic pressures, differing national and cultural standards and the lack of legal standards as some of the reasons for unethical behaviours. Herkert (2000) suggests that the focus of engineering ethics on individual and micro-ethics is to the detriment of work on social or macro-ethics concerned with collective social responsibility which would have a bearing on Corporate Social Responsibility and the OECD (2004) principles of consideration of all stakeholders. Guenther (2000) argues for the need of professionals to have the ability to reason out ethic issues in any situation rather than be constrained by specific rules that may be in different professional codes. This is echoed by Strahlendorf (2005) who makes the case for professionals being able to question those codes and reason out appropriate ethical approaches to moral behaviour.

Ethics Reasoning is on the curricula of a number of universities (e.g. Univ. of Texas 2015 and Leeds Univ. 2015). Whitbeck (2011) has also conducted work on ethics reasoning in engineering and the RAE (2011) guidance contains case studies to facilitate reasoning skills.

This project commenced with the work of Piaget (1932) who pioneered the work on cognitive development and moral reasoning in children and this was substantially developed and tested widely by Kohlberg (1971) and Eckensberger (2007). Their findings of an invariant development of moral judgement are classified in three categories; pre-conventional, conventional and post-conventional (Table 1).

Table 1: Kohlberg’s levels of moral reasoning

<i>Level of moral development</i>	<i>Stage of reasoning</i>	<i>approx ages</i>
<i>Pre-conventional, "do's and don't's"</i>	<i>Stage 1. Right is obedience to power and avoidance of punishment.</i>	<i>< 11</i>
	<i>Stage 2. Right is taking responsibility and leaving other to be responsible for themselves.</i>	
<i>Conventional</i>	<i>Stage 3. Right is being considerate: "uphold the values of other adolescents and adults" rules of society.</i>	<i>adolescence and adulthood</i>
	<i>Stage 4. Right is being good, with the values and norms of family and society at large.</i>	
<i>Post-Conventional</i>	<i>Stage 5. Right is finding inner "universal rights" balance between self-rights and societal rules - a social contract.</i>	<i>after 20</i>
	<i>Stage 6. Right is based on a higher order of applying of applying principles to all human-kind; being non-judgemental and respecting all human life.</i>	
	<i>adapted from Kohlberg, 1986</i>	

Using these levels and stages as a foundation, the authors developed an industry specific undergraduate module within the Quantity Surveying degree course that included a problem

solving component. As the semester progressed, students were presented with hypothetical and real-world scenarios of increasing complexity that included the use of case studies relating to contract acquisition, construction quality and ODH on construction projects. The students were asked to suggest individual and group solutions to the problems identified and to provide a rational explanation for their choices, which were then subject to challenge in open forum discussion.

These exercises were integrated with teaching and study on various theories of ethics, in particular utilitarianism, deontology and virtue ethics, and in the context of international and national codes relating to Human Rights and OSH obligations. The expectation was that the first year students who undertook this module would initially demonstrate stages 3-4 ethics reasoning and be moving towards stages 4-5 reasoning by the end of the module and with appropriate reinforcement, be demonstrably stage 5 by their graduation year. This would accord with the general findings in Piaget (1932) and Kohlberg's (1971) work.

In the first iteration of the module the outcomes showed a higher than expected pre-conventional reasoning, however by the second semester, a number of students were demonstrating reasoning at one level higher, close to Kohlberg's (1971) prediction that 50% of students would reason at one level higher after twelve weeks. This is likely to have been due to the students having a period of time in which the module and learning was assimilated into their thinking.

The second iteration of the module introduced the moral philosophy and theories of ethics described above, and this cohort of students demonstrated more conventional stage 3 reasoning with some demonstrating stage 4. The stage 3 reasoning emerged strongly with problems with high construction and OSH context and with which the students were less familiar. This stage 3 reasoning was related to their perception of loyalty to their (fictional) future employer and acceptance of the authority of managers. However in more generalised problems where their awareness of the law was broader, stage 4 social conformity reasoning was more in evidence.

The module has evolved over 4 years and now comprises the following elements:

- Ethical problem solving exercises to develop skills
- Introduction to the prevalent theories of ethics
- Case studies, to be analysed on the basis of the various theories
- Stages of Ethics Reasoning
- Contextualisation, construction and international protocols and codes
- Agency and resolving conflicts

The project demonstrated that the context within which skills development occurs needs to be one that is familiar to students to allow them to exercise personal judgement rather than defer to an

existing deontology. As such it is appropriate that the ethics reasoning skills development takes place continuously throughout their under-graduate studies, for example through regularly presenting case studies in other modules that allow the students to evaluate and address the moral issues in them. This will further allow for greater assimilation as there will be period between teaching/study when the ideas and skills can imbed. A new under-graduate Safety Engineering and Disaster Management degree course, co-developed by one of the authors, recognises this and has integrated ethics reasoning throughout the course with a clear focus on developing and demonstrating stage 5 reasoning and critical analytical thinking into Prevention through Design by their graduation year.

3. Conclusions

Ethics and moral behaviour are at the core of Man's relationships with others and with himself, and construction is the epitome of these relationships, contributing to Man's wellbeing, satisfying basic needs and meeting the higher emotional and intellectual needs of self-actualisation. They are at the heart of construction professionalism and transcends simple adherence to codes or compliance with statutes. Ethics Reasoning recognises these deontologies as milestones on the road to a mature ethic based on equality and respect for all humanity, and a morality that acts in the interests of and advances the wellbeing of all.

An Ethics Reasoning approach to the industry and, specifically, to OSH recognises that professional and vocational workers have the capacity within their competences to be aware of and act on the universal principles of social justice and human rights. This approach further recognises and takes account of the various ethical philosophies found in national cultures and through the reasoning process contextualises these perspectives with the fundamental principles of moral behaviour, i.e., the Golden Rule.

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