P r o c e e d i n g s
16th IAMU Annual General Assembly
Opatija, Croatia, 2015

Sveučilište u Rijeci
Pomorski fakultet Rijeka
University of Rijeka
Faculty of Maritime
Studies Rijeka

IAMU
International Association of Maritime Universities

THE IMPLICATIONS OF OUTSOURCING SEAFARER EMPLOYEES GLOBALLY: THE POSSIBLE IMPACT OF AUTHENTIC ASSESSMENT

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Abstract. The Standards of Training, Certification, and Watchkeeping (STCW) Code was introduced by the International Maritime Organisation (IMO) to globally regulate the standards for competence assessment and certification of seafarers. However, flexibility and vagueness in the Code has led to a lack of uniformity in the adopted assessment methods and the resulting competence standards of the graduating students worldwide. Variability and inconsistencies in employee competence on board ships may have profound ramifications on seafarer employers that intend to outsource employees from the global labour market as a benefit of globalisation. Such employers are increasingly demanding evidence of achievement of the STCW standards or more from maritime education and training (MET) institutes. Due to impracticality, the solution may not lie in increasing global regulation of training but exploring innovative assessment practices that may be implemented nationally to improve the certification and resulting evidence of competence of seafarers. This paper provides theoretical justification to support authentic assessment as a possible alternative to current assessment practices. Based on a review of literature in the area of authentic assessment, the paper argues that student performances in a real-world context captured through rubrics provide contextual evidence of competence to perform on-board tasks. Such contextual evidence can then be used to gauge the standards of training and improve on them by stakeholders such as educators, employers, and national regulators.

Key words: authentic assessment, globalisation, STCW, seafarer, training and assessment

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1 INTRODUCTION

The first half of this paper contends that five shifts in the political economy of global merchant shipping have occurred since the 1970s. These five shifts have culminated in the restructuring of the global labour market for seafarers. However despite these profound shifts a sixth shift in the education and training of seafarers has yet to materialise. To complete the transformation of the labour market for seafarers, a shift in the andragogy has to be made towards authentic assessment as a globally meaningful and recognised way of certifying seafarer competency.

There are five Post-Fordism tendencies precipitated by shipping capital that have contributed to manufacturing insecure labour markets for merchant navy seafarers. These tendencies are: (1) the delinking of the nation state from labour regulation processes, (2) the shift to cheaper labour markets, (3) the casualisation of seafaring labour, (4) organisational restructuring of shipping companies, and (5) the impact of new technologies on labour market security. These tendencies have revolutionised the ways in which global seafaring labour markets operate and make it an ideal case study to reflect on the usefulness and purpose of globally regulated training standards. As part of the process to regulate and restructure labour markets the Standards of Training, Certification, and Watchkeeping (STCW) Code was introduced by the International Maritime Organisation (IMO) to globally regulate the standards for competence assessment and certification of seafarers (Bloor et al., 2013a; Bloor, Sampson, & Gekara, 2013b). However, flexibility and vagueness in the Code has led to a lack of uniformity in the adopted assessment methods and the resulting competence standards of the graduating students worldwide.

Variability and inconsistencies in employee competence on board ships may have profound ramifications on seafarer employers that intend to outsource employees from the global labour market as a benefit of globalisation. Such employers are increasingly demanding evidence of achievement of the STCW standards or more from maritime education and training (MET) institutes. Due to impracticality the solution may not lie in increasing global regulation of training but exploring innovative assessment practices that may be implemented nationally to improve the certification and resulting evidence of competence of seafarers.

2 GLOBALISATION AND REGULATORY COMPLIANCE IN THE SHIPPING INDUSTRY

Bloor et al. (2013a) demonstrate in their empirical investigation into the global compliance of training standards of seafarers, that global regulation of STCW standards and certification is beset with issues. They argue that: *"Despite long-standing efforts by international bodies to standardize and regulate the education and training of seafarers, variations in practices and standards persist. Employers exercise contradictory influences on education and training providers, on the one hand demanding the urgent provision of more recruits (encouraging corner-cutting), and on the other complaining about the poor quality of recruits received (urging crackdowns on poor quality providers and more rigorous examinations) – the training double bind".*

Post-Fordism labour market practices such as flag of convenience (FOC) shipping, outsourced labour and the delinking of the nation state from global regulatory policies have culminated in this double bind. More than any other industry the shipping industry and its crewing practices have been transformed by the various processes of globalisation. There is arguably a single global labour market (Bloor et al., 2013b) that is dominated by seafarers from nine countries (the Philippines, Russia, the Ukraine, China, India, Poland, Indonesia, Turkey, and Myanmar). Collectively nationals from these countries supply two-thirds of the million seafarers in the international fleet (Wu and Sampson 2004). Given the diversity of national training regimes, the STCW requirements are a requirement to standardise certification and quality across this variable labour market landscape.

Despite the IMO setting up a 'white list' system in 2003 as a strategy to audit national MET institutions' compliance with STCW requirements, there is little evidence to demonstrate that the general standard of education and training has improved globally in this industry (Sampson, 2004). Many countries, including some of the 'white list" nations, allow METs to operate with training and assessment regimes that barely meet the minimum compliance of STCW. For example, a study by Sampson (2004, 251) showed that Philippines is a 'white list' nation that has allowed sub-standard METs to operate in spite of falling short of STCW expectations. The ethnographic study focused on Singapore, United Kingdom and Philippines and comprised of thirty in-depth interviews with company managers, college lecturers and trainers, union officials and a member of the IMO.

Whilst some METs have closed, there has been little overall impact on the quality of training that seafarers receive. The polycentric governance structure of the shipping industry (Black, 2008), whereby national states have little to no control over the regulation of certification of their seafarers, means that certification and compliance management is often a fragmented process in which "state actors are both regulators and [the] regulated" (Bloor et al., 2013a, 172). This also means that the 'idea' of a global STCW certification and

compliance regime is more appealing as an 'idea' than in actual practice. In a world with no political, economic, uneven labour markets and social inequities, global standards of quality certification would be relatively easy to maintain.

The Post-Fordism shift of shipping companies outsourcing labour recruitment to crewing agencies has resulted in concomitant shift of the training burden from shipping companies to seafarers themselves, especially in the developing world (Bloor et al., 2013b; Ruggunan, 2015). Thus quality of training and cadetships that would normally be controlled by shipping operators is no longer guaranteed. The impact of this outsourcing or 'just-in-time' training of seafarers has profound consequences for the legitimacy of STCW and hence the global labour market for seafarers. For just-in time crewing agencies, paper certification is an adequate indication of the seafarers' competence to work on an appropriate vessel. However in practice ship owners are finding variability and inconsistencies in crew competence (Ghosh et al 2015).

On the national level, local peculiarities of political economy and resources determine how implementation and practice of STCW takes place. Given that the majority of seafarers are supplied from developing countries (Ruggunan, 2015), it seems remiss to ignore the peculiarities, challenges and constraints faced by these labour supply countries in ensuring the quality of their STCW training. In South Africa for example, as in other developing countries, resources at white listed METs (there are only two in South Africa) are limited. There is a shortage of qualified lecturing staff in maritime education and training in the developing world, for meaning that lecturing staff are often overworked. One way of ameliorating this overwork is to engage in assessments methods that are viewed as less labour intensive. This includes a shift towards multiple choice questions as preferred methods of assessment in licensing exams for seafarers. Secondly, there is increased pressure from the State to increase the number of cadets trained by METs without a concomitant increase in resources. This necessarily impacts on the assessment methods. Thirdly, States like South Africa require that STCW certification occur within the university system of the country as opposed to occurring in dedicated METs. Therefore all the pressures of traditional universities equally apply to maritime studies departments.

3 OUTSOURCING OF TRAINING AS A POST--FORDISM STRATEGY

Outsourcing is a key feature of the Post- Fordism era. This feature is part of the flexible accumulation strategy of neoliberal globalisation as argued by Harvey (2014). For Harvey (1996; 2014) the shift to 'new times' or post Fordism is very much a shift to a new mode of regulation for capitalism. He terms this new strategy 'flexible accumulation' (Harvey, 1996, p.141; 2014). Flexible accumulation strategies were very much a response to what capitalists and some economists saw as the all too rigid accumulation strategies of Fordism (Harvey, 2014; Piketty 2014). The mass production systems, labour markets and commitments of the state were seen as too rigid and because of their rigidities unable to cope with the several economic shocks that characterized the 1970s (Harvey, 1996, 144). Flexible accumulation therefore marked 'a direct confrontation with the rigidities of Fordism' (Harvey, 1996, 147).

The key features of this new type of accumulation are firstly a shift to flexible labour processes, secondly the creation of flexible labour markets and thirdly the creation of flexible products and patterns of consumption (Harvey, 1996, 147) and fourthly in the case of global industries such as shipping, an outsourcing of training to seafarers themselves. Shipping companies and crewing agencies do not subsidise or pay for the training of ratings and officers. Seafarers are expected to lay out the costs of their own training which has to be globally compliant. This means a massive financial saving for shipping companies who historically have trained seafarers at their own cost. This is part of a global trend towards shifting the financial burden of training to individuals and away from employers.

However, the International Safety Management (ISM) Code developed for the safe operation of ships clearly states that it is the responsibility of the seafarer employers to ensure their employees are competent to work on board ships (IMO, 2002, 8-9). The IMO authorises national regulators to investigate seafarers' competence through inspections and surveys, amongst many other regulatory requirements, to identify and deter substandard ships from operating (AMSA, 2011, 15). Ships can be detained and registers cancelled if serious deficiencies are found in an operators' ability to perform workplace tasks safely (Department of Infrastructure and Transport, 2012, 18-19). Due to a global shortage of seafarers, the training period of trainee cadets have been reduced and young officers with a reduced sea experience are being promoted (Listewnik, 2009, 34) to fill up the higher ranks of responsible officers on ships, on obtaining the CoC for the appropriate level of responsibility. Hence, many progressive employers are investing large amounts of capital for training seafarers (Sadjadi and Perkins, 2010, 57-58) in METs expecting the certification process to result in graduates that have high standards of competence.

Literature on outsourcing of training in industries such as construction, computer services and telecommunications indicate that employers often have to intervene to quality manage training standards from outsourced suppliers or agencies (Mackenzie, 2000). Forde et al. (2008) in Bloor et al. (2013a) demonstrated that industries sometimes refuse to hire prospective employees from agencies because of perceived problems with quality of training. In the global labour market for computer software engineers, nurses and doctors it is not uncommon for nation states to insist on a national set of examinations or assessment to be undertaken before these candidates can be considered competent. As processes of globalisation such as flows of people and capital increase, the shipping industry is going to struggle further with regulating the quality of STCW qualifications.

A system of double certification may come into play where employers introduce a second tier of assessments whereby cadets have to demonstrate certain competencies as proof of their employability and to give credence to their paper qualifications. It is precisely this double certification regime which this paper argues is a potential crisis in the current globally regulated STCW training regime. The second half of this paper suggests that further regulation and management by compliance may not be the most practical solution going forward. What may be needed is a shift towards new types of assessment practices. Given the casualised and insecure nature of the global labour supply countries for seafarers there is a strong reliance on the credibility of the STCW qualification when employing seafarers. However, a substantive body of work empirically demonstrates the disparities in the competencies of seafarers from different (as well as within) countries (Sampson, 2004; Sampson & Bloor, 2007; Bloor et al 2013a, b).

In Bloor et al. (2013b), the authors demonstrated that there are three general models used to assess seafarers' competencies. Of interest is that the three models differ not only across countries but sometimes differ within countries as well. Maritime nations often have excessive competition amongst its METs. The METs need to provide economical and affordable training to attract more students (Bloor and Sampson, 2009, 718) due to which they may not invest in costly simulators and other training/ assessment facilities. Another view of the same issue can be seen from the eyes of the METs from developing or low cost nations who intend to fully comply with STCW. However, they may be unable to afford costly training and assessment facilities like simulators and seek support from other stakeholders, such as the national government. In many instances, such support might not be available (Baylon and Santos, 2011, 40) to METs from its stakeholders. Moreover, STCW'95 did not fully eliminate the vagueness in assessment standards as it specified methods to demonstrate competence but did not provide specific methodologies, leaving it to the discretion of the assessor (Robson, 2007, 248). For example, how sophisticated and advanced should the simulators be to reflect STCW standards? The STCW only provides recommended performance standards for non-mandatory types of simulators.

Even after the last revision in 2010, the vagueness in STCW continues to leave too much room for interpretation by METs, who are using varying combinations of assessments (Bhardwaj, 2009, 29; Drown et al., 2010, 1-3; Kean et al., 2011, ii) for students to demonstrate the performance standards described in the STCW Code. Assessments ranged from multiple choice questions, traditional written examinations, simulator tests and oral examinations. New labour supply countries tended to use less labour intensive approaches to assessment due to a range of human resource constraints as opposed to traditional maritime nations that tend to employ more labour intensive approaches. As averred to earlier, the globalisation of the shipping industry has resulted in five shifts in the industry, but the sixth shift towards valid and reliable assessment and training practices has yet to occur. The shift towards a globally regulated STCW standard is a promise half-filled as borne out by the evidence of the last 25 years. For the sixth shift to take place, a serious consideration of authentic assessment practices needs to take place. It is this shift that the second part of our paper focuses on.

4 AUTHENTIC ASSESSMENT AS A WAY FORWARD

The standards of the STCW convention constitute a compromise between the capabilities of developed countries, which can meet the highest requirements, and the situation in those countries where resources are insufficient to satisfy them (Walczak, 1999). Such flexibility allows developed and developing nations to adhere to STCW requirements and hence may be considered a practical approach to globally regulate standards. However, it makes it challenging to achieve standardisation in approaches to training and assessment. Even if standardisation is achieved through traditional assessment methods (e.g. multiple choice questions, oral examinations, or written examinations) that may be conveniently adopted universally; the assessment methods may fall short of its intended purpose of assessing competence. Traditional assessment methods may be effective in assessing lower order cognition skills of memorising and regurgitating but are restricted in their ability to design tasks that are re-

Table 1 Example of how contextual evidence of competence may be generated for tasks listed in the STCW'95 Code

Unit of Competence	Context of Assessment	Outcome Achieved	Evidence
Prevent, Control, and Fight Fires	Simulated fire scenarios in enclosed structures and open spaces; Theory applied in classroom-based tests.	Students wear fireman's outfit; and operate fire extinguishers, fully charged fire hoses, and fixed fire-fighting installations to extinguish and control simulated fires; Students demonstrate theoretical knowledge of prevention, control, and fire-fighting.	Students should provide an advanced fire-fighting course completion certificate from a training institute approved by the national regulator; Certificate should be accompanied with written documentation on tasks completed successfully during the course.

quired to be performed at the workplace. Authentic assessments are defined as performance-based assessments that are applied in real-world contexts or situations that are contextually similar to the professional world (Wiggins, 1993; Meyer, 1992; Reeves and Okey, 1996).

Employers may be sourcing seafarers from the global market but essentially want evidence of the employees' ability to perform at the workplace before they can be assigned roles on board ships. Due to complexities in recreating shipboard scenarios in land-based MET institutes, authentic assessments for seafarers may not always be conducted in accurate workplace settings. If real life contexts and complexities (task centred approach), cannot be created in assessments, they should then focus on the selected constructs (construct centred approach) of knowledge and skills (Messick, 1996). For example, assessments designed in METs may not be able to assess a student's competence to manage large crowds as is required on passenger ships but they may be designed to assess a student's competence to do so through their ability to analyse risks associated with such management or developing crowd management plans. Although such assessments may take place in controlled situations, the authenticity will be reflected through ways in which the same skills would be applied in real-life contexts (Messick, 1994). However, authentic assessments are required to generate contextual evidence of competence (Gulikers, Bastiaens, & Kirschner, 2004), as shown in Table 1, which will inform employers on the workplace activities that students can actually perform under particular contexts. This information can be used by employers to identify gaps in the knowledge and skills of their student employees and fill the gaps with additional training, if required.

Assessments that do not provide contextual evidence may leave employers clueless as to what should the additional training should focus on. Costs of additional training are often bore by the employer (Hanzu-Pazara and Arsenie, 2007, 314). Although employers have training obligations for preparing their employees for specific types of vessels, costs borne for aimless training should be avoided as it can cause a significant impact on the employers' budgets. Many employers already feel reluctant to spend capital on employee training due to the risk of them being poached by other companies offering higher salaries (DEEWR, 2010).

However, the contextual evidence of competence in isolation does not inform the concerned stakeholders on the details of the learning outcomes achieved. It needs to be supported by statements that comprise of essential dimensions of outcomes known as criteria along with standards for levels of performance against those criteria. Such statements can be provided through assessment rubrics (Jonsson and Svingby, 2007).

Standards in rubrics are defined as levels of definite attainment and sets of qualities established by authority, custom, or consensus by which student performance is judged, whereas criteria are essential attributes or rules used for judging the completeness and quality of standards (Sadler, 2005). One of the key characteristics of authentic assessments requires it to provide statements of performance expected from students at the beginning of the learning period, allowing allows students to learn and educators to adopt appropriate instructional strategies to guide students towards the achievement of the desired outcomes (Archbald, 1991). Table 2 provides an example of how rubrics can be constructed to provide details of tasks that students can actually perform and their level of performance towards achievement of broad learning outcomes.

Statements of competence to perform workplace duties should not only encompass technical skills but also the cognitive and underpinning soft skills such as problem-solving and decision making which are essential for employability. The practice of assessing a limited range of technical skills can curtail the development of a holistic portfolio all the necessary skills (Cox, 2009) required for supporting workplace performance at a particular level of responsibility. For example, essential underpinning skills for the STCW unit of competence of 'Prevent, control, and fight fires on board' can be identified as communication, teamwork, ability

Table 2 Example of how rubrics can inform on individual tasks and levels of performance towards outcomes achievement

Criteria	Standard 1 (Deemed insufficient to be competent at any level)	Standard 2 (Minimum required to be deemed competent at support level)	Standard 3 (Minimum required to be deemed competent at operational level)	Standard 4 (Minimum required to be deemed competent at management level)
Identify the class of fire and choose the correct extinguishing system	Unable to identify the class of fire and/or choose the correct extinguishing system	Identify the class of fire and choose the correct extinguishing system in less than 3 minutes	Identify the class of fire and choose the correct extinguishing system in less than 2 minutes	Identify the class of fire and choose the correct extinguishing system in less than 1 minute
Operate the fire extinguisher as per the manufacturer's instructions	Unable to operate the extinguisher and/or to follow the instructions	Used the fire extinguisher using manufacturer's instructions in less than 4 minutes	Used the fire extinguisher using manufacturer's instructions in less than 3 minutes	Used the fire extinguisher using manufacturer's instructions in less than 2 minutes
Wear the fireman's outfit and as per the manufacturer's instructions	Unable to wear the fireman's outfit and/or follow manufacturer's instructions	Wear fireman's outfit as per manufacturer's instructions in less than 6 minutes	Wear fireman's outfit as per manufacturer's instructions in less than 5 minutes	Wear fireman's outfit as per manufacturer's instructions in less than 4 minutes

to work under pressure, leadership, etc. Authentic workplace tasks will require underpinning skills to be identified and incorporated in the assessments.

5 CONCLUSION

The flexibility in the STCW'95 Code has allowed nations to adopt differing approaches to seafarer training and assessment. This has resulted in employers finding inconsistencies and variability in competence of their employees irrespective of whether employees are being outsourced globally or within the same country but graduating from different maritime training institutes. Current assessment methods provide no indication or reliable evidence of a graduating student's competence and whether it can be transferred to workplace contexts. This paper acknowledges that achieving standardisation in global training and assessment practices can be challenging. Moreover if the standardisation is achieved through assessment methods that are convenient to adopt universally but are failing to assess holistic competence of seafarers; the expectations of the employers will not be met successfully. Authentic assessment conducted in real-world contexts is suggested as a possible solution. Authentic assessment will require students to apply knowledge and skills developed in classrooms to workplace or contextually resembling workplace scenarios. The students would require an integration of competence developed in individual tasks as well the use of the underpinning skills which will promote a holistic approach to competence assessment. Authentic assessments may not create standardisation in global assessment practices but it essentially requires contextual evidence of competence to be generated which can be used by employers to gauge the contexts under which the competence of the employees have been developed. The evidence would provide reliable indications of employability or the ability to recognize gaps that can be filled with additional training. Future research should aim to empirically investigate if authentic assessment can be used within the confines of the STCW Code to meet employer and regulator expectations with the seafarer training process.

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