

Certification of safety professionals: emerging trends of internationalisation

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Abstract

Professionalisation of safety began at a national level with the formation of national associations of safety staff working in industry and of government inspectors. It took its first steps towards international harmonisation with attempts in the 1970s in Western Europe to arrive at agreement on the content of university level courses. The European harmonisation was boosted by the initiative of the ISSA (International Social Security Association) Safety Training Section, later taken over by ENSHPO (European Network of Safety & Health Professional Organisations), to document the regulatory schemes and the range of roles and competences of safety professionals across Europe. Transportability of professional qualifications became one of the important issues under discussion within the European Union. This led to the development of two ENSHPO standards, for certification of safety managers and safety technicians. These have, in turn, influenced some participating countries, such as Italy, Malta and Russia to amend and upgrade their national qualifications, or to model their newly developing qualifications on these standards. A European project, EUSafe, is currently taking a further step to develop the standards into exemplary role and task descriptions, learning objectives and teaching protocols which can be used to stimulate further training initiatives and lead to further harmonisation of training requirements. Initial work included a review of the education programmes that already exist in the EU and identified the states where there is a legal requirement for safety professionals. Based on the UK National Occupational Standards for safety detailed profiles of occupational competence for individual professionals have been identified indicating what a health and safety professional should be able to do. These have been turned into learning outcomes for professional courses at different EQF (European Qualifications Framework) levels. This European development has now combined with a parallel development internationally under INSHPO bringing together North American and Asia Pacific countries to share and learn from each other's certification and accreditation systems.

1. Introduction: some history

The safety profession is a venerable one. We can trace its origins back to the appointment of the first inspectors of factories in the UK in 1833, or perhaps more accurately to the Act of 1844 (GB 1844), when legal requirements were first made for accident prevention measures such as machinery guarding. These inspectors were not trained for the technical aspects of their job, and indeed many critics considered that they had been chosen, like so many officials at that time, purely as a result of the patronage of men in high places (Hale 1978). The first four were rudely characterised by one pressure group at the time of the 1833 Commission as: "a briefless lawyer, a broken down merchant, a poor aristocrat, and an intimate friend of Lieutenant Drummond, incompetent for their task, but amply provided with the most unconstitutional means of annoyance and mischief." (Short time Committee of Birstall, 1833). However these inspectors and their superintendents set to with a will to ensure secure fencing of machines.

They had the powers to declare any part of machinery dangerous, although the employer could only be prosecuted if there was subsequently an accident on that part.

As the factory legislation expanded from textile mills to the full range of dangerous trades, so the professionalism of the inspectorates, not only in the UK, but in all industrialised countries, also expanded. Specialist technical inspectors were first appointed in the UK in 1899 (Hale 1978) and the first national safety museums were established in Germany, the Netherlands and the UK in the 1890s. These showed exhibits of machinery guarding, personal protective equipment and other preventive measures and were used as training establishments for industrial groups. They form the distant progenitors of the modern national safety institutes.

The first safety officers employed by industry can be traced to the origins of the 'Safety First Movement' during and after the 1st World War in the USA and the UK. Their primary tasks were, as their title of 'officer' suggests, to ensure discipline in following safety rules, using protective equipment and not removing safety fencing (guards). They were often recruited from the military or police in order to fulfil those tasks.

After the 2nd World War these safety officers began to get together in a number of countries to form an association, such as the Institution of Industrial Safety Officers (IISO), formed in 1945 in the UK, which later became the Institution of Occupational Safety & Health (IOSH). In the Netherlands the Dutch Association of Safety Engineers (NVVK¹) dates from 1947. From that time these associations, aided and directed by regulatory initiatives, began on the path of professionalisation of the subject. This leads through a number of stages, first voluntary and then increasingly with some regulatory support (Atherley & Hale 1975, Hale et al 1986, Dingwall 1996, Evetts 2002). These stages regulated entry requirements, defined training requirements and a career path in the profession. To do this it was necessary to define the areas of expertise and tasks belonging to the profession. This in turn led in some cases to conflict with neighbouring disciplines such as occupational hygiene in the UK (Atherley & Hale 1975) and occupational medicine in France (Chabaane 1985) when more than one group tried to claim an area of knowledge and competence and even protect it with statutory rules. An important step in professionalisation was taken with the establishment of the first university courses in safety in the 1970s, with Germany taking the lead (Wupperthal), closely followed by France (the IUTs² in Bordeaux and Lorient among others), UK (Aston) and Belgium (Leuven) (Dorval 1977, Uliana & dos Santos 1982). This established the safety profession at the same educational level as its sister professions of occupational health and occupational hygiene and gradually removed some of the inferiority complex of the safety profession. At around the same time the first scientific journals devoted to research on safety were established, such as the Journal of Occupational Accidents (now Safety Science) in 1976.

Through this century and a half of history we can trace a broad shift in the area of concentration of these (proto-)safety professionals (see also Swuste et al 2009). As indicated, the first inspectors saw safety purely in technical terms, as machinery guarding. Indeed they felt it pointless to report any accidents which did not have such technically controllable causes, since they saw them as essentially unpreventable (Hale 1978). This first, 'technological age' of safety (Hale & Hovden 1998) remained dominant for the professional group until well into the 1980s and is still an important strand in the tasks they do. From the 1920s a second strand was added, with the studies of the British Industrial Fatigue (later Health) Research Board into the question of accident proneness. This ushered in a set of tasks related to selection and training of workers. After the 2nd World War the accident proneness concept was

¹ Nederlandse Vereniging voor Veiligheidskundigen (later Veiligheidskunde)

² Institut Universitaire de Technologie

scientifically devalued, but still continues to hold much popular sway in the media. The ‘human factors’ age shifted its emphasis from the 1950s to the design of jobs and man-machine interfaces, as the subject of ergonomics saw the light of day. From the 1980s this was overtaken by the ‘third age of safety’ (Hale & Hovden 1998), which ushered in the dominant concern for safety management. This trend can be seen in the scientific literature, in political debates and in the content of training courses (see e.g. Booth et al 1991, Hale 1995, Storm & Hale 1995, Hale 2006).

2. Professionalisation

The last 40 years have seen an enormous development in the occupational safety and health professions in Europe (Atherley & Hale 1975, Hale et al 1986, Cattaruzza & Huguet 1993). Legislation at EU level has established the requirement for employers to have competent advice on safety and health problems (European Commission 1989). 15 of the 29 EU and EEA countries surveyed specifically require safety professionals in their law, but, even in those which do not, good practice has led to a great increase in the numbers of safety professionals becoming members of professional associations. For example the UK association (IOSH) saw an increase in membership over 30 years from 4000 to over 30,000, and the Dutch association (NVVK) grew from 900 to 1550 over the same period. University courses at Bachelor’s and Master’s levels in safety (at EQF levels 6 and 7 respectively) have been established since the 1970s in 19 of the 29 countries surveyed and the remaining 10 have safety professional courses at technician levels (EQF levels 4 and 5). Studies by the International Social Security Association (ISSA) and later by ENSHPO have shown that there is much common ground in the tasks performed by safety professionals across Europe and in the training courses provided (Hale et al 2005)

A strong driving force in this professional development has been the work of the safety professional associations themselves. They have used the tools of training and qualification, backed by certification to codify the subject area and to control entry into the occupation (Millerson 1964, Atherley & Hale 1975). Person certification is a process of setting criteria for someone to be admitted to a job or task. These usually cover the education level and experience for entry and the training to be followed, both before starting the job or task and to keep the knowledge and skill up-to-date with continuous professional development (CPD) and practice. Often, especially where the task affects the health and safety of those affected by its exercise, there are also standards of ethics and personal and financial probity. Certification is intended to provide a guarantee to the employers and clients of, in our case, the safety professionals that they will receive a service of high quality, delivered effectively and matching high ethical standards. In Anglo-Saxon countries (such as UK, USA and countries of the British Commonwealth) certification has a long history in relation to professional groups such as doctors, engineers, architects, accountants, etc., in which the profession itself develops and polices the standards. In many countries on continental Europe (e.g. France, Spain, Portugal, Germany) the same sort of process is usually in the hands of government. The certification of safety professionals has tended to follow the practice already established in each country, and so is sometimes regulated directly by government and sometimes left almost entirely in the hands of the profession. The EUSafe project (see below) found that, in 19 of the 29 EU and EEA countries surveyed the law requires the appointment of safety professionals for at least some employers. In 14 of those countries the training of those safety professionals is regulated by government regulation. In the rest the training is specified by other organisations, such as certification body, professional association or training organisation (see table 1).

In 2001 a number of pioneering professional associations of safety professionals set up the European Network of Safety & Health Professional Organisations (ENSHPO). It currently has 20 member countries. The network represents its members at European level, to influence European legislation, to act as a forum for the exchange of information about good practice and to develop the profession, particularly in the newer member states of the EU.

Role required by regulation, and training content specified by:		Role not required by law, training content specified by:
Government	Other bodies	Other bodies
Austria	Denmark	Czech Republic
Belgium	Estonia	Finland
Cyprus	Netherlands	France
Germany	Norway	Iceland
Greece	Poland	Ireland
Hungary		Lithuania
Italy		Malta
Latvia		Romania
Luxemburg		Sweden
Portugal		United Kingdom
Slovakia		
Slovenia		
Spain		
Switzerland		

Table 1. Role and/or training required by law

As one of its first tasks it set out to study the role and tasks of the safety profession. It took over the running of a study initiated by ISSA (International Social Security Association) into those tasks across Europe (Hale et al 2005, see also Brun & Loisel 2002). It also set up working parties on the exchange of good practices, on training and education, and on the development of certification at European level. The latter was designed to provide a voluntary scheme of international registration which would allow professionals to work across national boundaries more easily, because employers could easily make comparisons of their professional qualifications.

The next section sets out the choices open to any certification scheme for safety professionals and then describes the choices made up to now by the European standards developed by ENSHPO, which has extended this tool of certification from the national to the European level (see Hale et al 2008 for more details). Freedom of movement of people across national borders is one of the fundamental rights enshrined in the European treaties setting up the European Union. The initiative taken by ENSHPO in this area has aimed to set up a voluntary scheme to assist in this.

3. ENSHPO Certification: development and current status

The aim of certification is to provide the guarantee that a person awarded the certificate has at least the defined level of knowledge, skill/competence and ethical probity. Every certification scheme has to struggle with two questions: how should the criteria be defined to give this guarantee? How should they be tested in practice?

The answers to these questions are always compromises, because there is always a cost-benefit trade-off to be struck between the validity and desirability of the criteria and the cost and logistic complexity of assessing them.

3.1. Knowledge and Continuous Professional Development (CPD)

The ISSA/ENSHPO studies (Hale et al 2005) showed that the central knowledge core for safety professionals covered the hazards related to machinery & vehicles, human error, dangerous materials, fire and explosion, electricity and the working environment and working posture. The core tasks were workplace and process risk assessment and development of prevention measures, training, information

and motivation, safety management and culture, inspection, workplace behavioural audits and other compliance checks, accident investigation and emergency procedures. In the majority of countries these were joined by safety assessments in the design stage, developing and measuring key performance indicators for safety and auditing of the safety management system. This gives a picture of the knowledge whose presence the certification system needs to assess.

ENSHPO decided that it would be too costly to run its own examination, which would anyway duplicate the examinations at national level. The decision was therefore made to specify a core list of topics which should be covered by the professional courses and tested by an examination and to specify the level of the course and its minimum length. A small number of indicative headings under each topic were given to explain what the OHS training should cover, but these were not designed to be complete or exclusive, since it was felt that this would be too difficult to agree on in detail initially, given the range of differences found across Europe. The EurOSHT content was modified to reflect the different, more routine and workplace-oriented tasks that these second level practitioners would be certified to do. The Certification Committee (CC) was charged with making expert judgments about acceptability of the training, based on the course details submitted by the various countries. If a country's certification scheme met these criteria for its training specification, it could be approved as meeting ENSHPO standards. Formulation of course requirements in terms of educational objectives was postponed at the initial stage. It was seen as a desirable way of tightening the definition of the knowledge requirement later, a step which is taking place now in the EUSafe project (see below).

It was felt that ENSHPO should not specify requirements for the training establishments giving the courses, nor for the trainers employed to provide the courses. This could be left to national standards if desired.

Knowledge requires to be kept up to date, and this was specified by making a requirement for CPD, specified in number of hours and a general requirement for relevance. The option of approving courses for CPD points was felt to be too demanding for European level certification. Renewal of the certification was set at every 3 years, at which point the CPD requirements had to be fulfilled.

3.2. Competence

Knowledge is about what people know; competence about how they apply that knowledge. It can only be assessed to a very limited extent by written examination. The ISSA/ENSHPO studies (Hale et al 2005) showed that safety professionals need many intellectual and interpersonal skills. They are advisers, generalists working in an interdisciplinary field, needing to network and collaborate. It is centred on problem solving, monitoring and control and at the safety manager level, on organisational change. They need to be able to deal with all levels of top and line management and workforce, maintenance, design, government inspectors, local authorities, fire services, lawyers, trades unions and deeper specialists in their very broad field. There is always an underlying need to decide on priorities and to reconcile differences in these between different groups within, between and around workplaces. These skills can partially be assessed by examination, especially if that includes project work applying the knowledge learned to a practical situation and if the level of the course is predicated on monitoring of compliance at the EurOSHT level, requiring rule learning and application (EQF level 4 and 5) and on coordinating and developing policy and dealing with emerging problems at the EurOSHM level, requiring innovative problem solving (EQF 6 and 7).

The most convincing proof which can be given of this is through assessment of actual achievements in the candidates' workplace(s) over time. The Initial Professional Development (IPD) assessment scheme of IOSH in the UK aims to do this (IOSH undated), with members being required to submit evidence of activities undertaken, initiatives successfully completed and self-reflection on their value. This was felt to be a too expensive scheme for ENSHPO to operate, costing much time for the professional to produce the reports and for senior professionals employed by the certifiers to assess them.

A less rigorous test of competence is simply to specify that the candidate must have a certain number of years of safety professional experience, full- or part-time. This was the solution chose for the ENSHPO standards, relying on the candidate’s own curriculum vitae and descriptions, with the option for checking this with employers (or clients of consultants) in a proportion of cases.

3.3. Ethical probity

Every profession which deals with decisions about people’s health and safety and has access to confidential information about individuals gives the professional the power to harm as well as protect those people. Hence the professionals need to operate by an explicit code of conduct or ethics. A code of conduct for ENSHPO was drawn up and approved. It contains clauses about personal probity (non-discrimination, financial integrity, handling of conflicts of interest, not laying claim to false qualifications, not practicing outside areas of personal competence), about placing the safety and health interests of their clients as their highest priority, about confidentiality of information and privacy protection, except in cases where this might conflict with protection of people in imminent danger, and about bringing any misconduct of other safety professionals to the notice of ENSHPO. Candidates are required to sign this code of conduct, alongside any other code that their national association may have.

3.4. Current status and the certification process

The current status of the ENSHPO certification at the two levels of manager and technician is summarised in table 1. The website for the operation of the certification scheme, run by the Swiss Institut für Ergonomie (IfE), has been operational since 2008.

Table 2. Summary of ENSHPO standards requirements

	EurOSHM	EurOSHT
Knowledge	250 hours OHS course, 150 hours examined, broad topics defined, CPD 48 hours/3 year	120 hours OHS course, 80 hours examined, broad topics defined, CPD 48 hours/3 year
Competence	Bachelor level education Application project during OHS training Experience after OHS training of 2 years full-time-equivalent in safety job,	Secondary school-leaving certificate. Application project during OHS training Experience after OHS training of 2 or 4 years full-time-equivalent in safety job, depending on initial education level
Ethics	Signs code of conduct	Signs code of conduct

Since some of the member countries of ENSHPO already had well-functioning certification schemes with relatively high standards, it was decided not to duplicate work by recertifying those individuals possessing such qualifications. If a national scheme already imposes and assesses all of the criteria in the ENSHPO standards, individuals with this certification are automatically accepted to the appropriate ENSHPO certification. This sets up a two-tier system, whereby ENSHPO first assesses the existing national schemes to establish whether they meet the ENSHPO criteria in some or all of the

three areas. If so, only those criteria which are not met nationally need to be checked for conformity when an individual with that national certification applies to ENSHPO. This enormously reduces the workload and hence the costs for both the candidate and the certification administration. The ENSHPO certification committee has assessed six national schemes so far at the EurOSHM level and has approved those submitted from UK and Ireland, Switzerland, Italy and Russia on all criteria; the Dutch and Portuguese schemes meet all but the criterion for length of professional experience. Both the Russian and Italian schemes were modified to be able to achieve the ENSHPO level. The Italian and Russian certification systems were upgraded to meet the ENSHPO standards during this process of approval, and the Maltese system was also upgraded through a European project which used the ENSHPO system as a reference point. This demonstrates an additional value of establishing a European benchmark, namely that it provides a motivation at a voluntary level for further European harmonisation.

4. EUSafe

In 2010 the opportunity arose to gain EU funding to take the process of European certification a step further in a number of areas. The EUSafe project commenced in autumn 2010 and will run until late 2012. Its objectives are to better underpin the definitions of the role and training needs of safety professionals across Europe, to establish learning objectives for their training at four different EQF levels and to provide indicative training material to illustrate the training requirements, but above all to spread the information about the training and standards across all European countries to encourage the process of voluntary harmonisation. One of the outputs of the project will be a mapping back onto the EurOSHM and EurOSHT standards to provide a much more detailed specification of the competences of the two levels of professional and hence a much clearer guidance on the learning objectives and content of the courses leading up to those two levels.

The project began with an inventory of the current situation across the 29 EU and European Economic Area (EEA) in relation to the role and training of safety professionals. Contact points in all countries were approached to review an earlier survey and update information about the regulations governing occupational health and safety and about the role of safety professionals and their training. In particular they were asked to indicate if the safety professional role was specified by law, and if so, whether the regulations specified the competencies and training course content. The main results of that inventory have been quoted in section 2.

A review was also conducted of the safety professional courses provided in all of the countries. These were assessed against the EQF framework and compared with the ENSHPO standards. This project equates EurOSHT to levels 4 (school leaving certificate) and 5 (foundation year at BSc), and EurOSHM to levels 6 (final year BSc) and 7 (MSc). The survey found that 9 countries had level 7 courses as their highest level of training; another 10 had level 6; whilst the remaining 10 had level 4/5 courses as their highest. This indicates that the last 10 countries would need to develop additional courses to bring their provisions up to the European norm. The remaining courses would simply need mapping to the learning outcomes being developed in the EUSafe project.

In order to arrive at learning outcomes for the different levels of course it was necessary to find a comprehensive set of task and function descriptions for the different levels of safety professional. Although 10 countries in the survey did provide high level functional descriptions of the work of the safety professionals required in their laws, these were not detailed enough for the purpose of the project. It was therefore decided to use the National Occupational Standards for Occupational Safety and Health, issued in the UK by Proskills (<http://www.proskills.co.uk/hs/hs-nos>, and <http://nos.ukces.org.uk/nos-search/Pages/SearchResults.aspx?k=occupational%20health%20and%20safety&r=organisation%3D%22ProSkills%22>). These are standards which break down high level OHS functions such as risk assessment, development of safety procedures, promotion of a positive safety cultures, keeping up to date with OHS developments, etc. Although some standards are related not to safety professionals but to

workers or supervisors, the framework provides a suitable basis for defining the tasks which should be undertaken at different EQF levels. The project therefore mapped the contents of each of the standards onto the EQF levels from 4 to 7 at which they should first form part of the task of the safety technician (junior 4, senior 5) and the safety manager (junior 6, senior 7). It was assumed that someone of EQF level 7 would need to be able to carry out all of the tasks from levels 4, 5 and 6. The exercise did produce some feedback to be provided to the NOS standards makers, because the comparison with other sources of competencies revealed a lack of sufficient explicit attention to safety management and organisational tasks and to some communication skills.

In a subsequent exercise the tasks at each of the 4 levels were translated into the learning outcomes which a course for that level should meet. These describe the knowledge, skills and attitudes that the courses should produce. For this use was made of the approach of Bloom

In the remaining parts of the EUSafe project illustrative course structures and teaching materials will be assembled to put flesh on the bones of the learning objectives. Widespread publicity for the materials will also be given through the networks of ENSHPO and its member associations and through conference presentations and papers.

4. Conclusions and future directions

The ENSHPO standards are voluntary. They do not yet replace the European legislative system for the formal recognition between member states of the qualifications of safety practitioners. However, it is hoped that, once established, and if found useful by employers and professionals, they can be offered as a way of removing the necessity for that procedure. In the meantime they represent an important step in the process of coming together of European professional associations in safety and health. They provide a basis for exchanging good practice in OSH training course design and assessment, professional development and certification.

The EUSafe project, financed by the European Union, is taking the certification process further by providing a much more detailed and well-argued description of the tasks which safety professionals at the two levels need to be able to carry out, and of the learning objectives of courses to train them to be able to perform those tasks.

The collaboration at EU/EEA level, which has produced the ENSHPO standards, has already been extended to Russia. It is now in the process of being extended further into the international arena, through the offices of INSHPO, the International Network of Safety and Health Professional Organisations. Work is being undertaken to extend the review of safety professional tasks and training to include countries such as the USA, Canada and Australia. The work done in Australia on the core 'body of knowledge' that safety professionals should possess is also being brought into the collaboration. This is a compilation of the theories and methods underlying the practice of safety, in the form of a text which should form part of the teaching material for any courses run in Australia. Its contents are, however, much more universal. The safety profession and its certification have therefore now taken fully to the international stage.

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