



Challenges and opportunities for mainstreaming OSH into university education — Summary of a Report

Introduction

Future engineers, architects, medical professionals and business administrators and managers will all need to take account of occupational safety and health (OSH) aspects in their working lives. This report (1) and the cases in it demonstrate that there are more challenges to integrating OSH into university-level education compared with other levels of education. However, the cases also show that steps are being taken to mainstream OSH into university education in a variety of disciplines and in a variety of ways. Furthermore, the cases demonstrate that, depending on the circumstances, there are various approaches that can be used and opportunities that can be exploited.

Challenges

It is important to be aware of certain challenges to the process of mainstreaming OSH into university-level education.

Challenges include:

- the need for partnerships with individual universities, faculties and professors;
- convincing professors of the importance of OSH education;
- high existing demands and pressures on undergraduate time;
- lack of suitable OSH educational materials for the university level;
- introducing practical, active learning methods for OSH in a learning environment dominated by theoretical learning methods;
- how to address large class sizes;
- lack of university-level teaching staff with OSH expertise and/or active and participatory education skills;
- sharing of educational resources where there is a strong tradition of guarding information in a culture of intellectual ownership;
- the length of time it can take for changes to be made to a syllabus;
- lack of funds for developing and providing OSH education at university level compared with school level, including funding for pilot projects;
- developing new links at ministry level where different ministries cover schools and universities;
- the continued need to improve the health and safety culture within universities.

Contextual factors that facilitate integration

Certain contextual features appear to facilitate the mainstreaming of OSH into university-level education.

(1) Report: *Mainstreaming OSH into university education*:
<http://osha.europa.eu/en/publications/reports/TEWE09007ENC/view>



Mainstreaming activity is more likely:

- in areas where national OSH legislation places specific responsibilities on certain professionals such as those involved in civil engineering projects;
- where training requirements for safety technicians are specified in law and include university-level study;
- where there is an academic department on site that is engaged in OSH; this appears to be more likely in technical universities;
- where the OSH authority or work insurance body has a training role that could include providing assistance to universities;
- in those areas where the university has specific OSH duties, for example for student safety during laboratory sessions and practical work.

Success factors

The cases suggest certain ways and means to approach mainstreaming OSH into university-level education. For example:

- Start by finding and **engaging some receptive individuals** and institutions to work with.
- **Work in cooperation**; do not be prescriptive.
- **Be sensitive to competing curriculum demands** and the pressures on undergraduate time that already exist.
- Limit OSH teaching to certain **key aspects**.

- **Embed OSH issues within courses** rather than as an add-on, especially if there is very limited opportunity for additional modules.
- Provide **suitable OSH educational materials** which are relevant to the study area into which they are being embedded, and the way that topic is taught.
- Use **real cases** and look for ways of introducing problem-solving methods, **active learning**, etc.
- Provide **assistance to academics** in how to make effective use of the materials.
- Use the **need to provide safety instruction** for practical work as a way of introducing a broader prevention-culture message to those students.
- Use **e-learning and electronic resources** to support and complement classroom teaching, but also make them more widely available for distance learning.
- For student motivation, have the study of **OSH contribute to final grades** or attainment of a recognised diploma, etc.
- **Get the timing right.** A university or specific profession has to be ready to accept changes, and the mood has to be right. For example, consider opening discussions when changes are being made to the curriculum or to strategies regarding future university graduates.
- **Engage with professional associations** about university-level curricula.
- **Explore partnerships:** cooperation between universities, research institutes, safety authorities, insurance companies and industry.
- **Promote and facilitate a whole-university approach to OSH** which combines OSH/risk education with creating a safe and healthy working/educational environment for all staff and students and actively involves staff and students in the process.

Eight more ideas:

- Set up a **repository for sharing university-level learning resources.**
- **Where some OSH education is already occurring**, for example because of the contextual factors above, use this as a stepping-stone to mainstream OSH more generally into other faculties.
- Where **local companies** are cooperating with universities, encourage them to integrate OSH into their activities for students (provision of lectures, student visits or placements).
- **Learn from the experiences of mainstreaming OSH into school education** and good practice in training young workers and adapt them to the university level.
- Take advantage of the increasing use of 'modular learning' and develop a specific **OSH module.**
- **Adapt vocational training methods** and resources for use at university level.

- Encourage **employers to identify OSH knowledge as a factor in recruitment.**
- Support **business schools to include OSH and economic productivity** in their research and conference programmes.

Examples of practices

When the University of Salamanca, Spain, introduced the OSH Technician Master's, they took the opportunity to provide some basic OSH resources for all graduating students on a CD-ROM and on the Internet, engaging the support of the regional government.

To provide cases for business studies, the US National Safety Council uses the Robert Campbell Award for Excellence in business cases that demonstrate health and safety and economic productivity. They adapt winning examples to fit the case-studies model used by top business schools and work with individual professors to encourage them to use the resources.

In the UK, funded by the national OSH authority, the Health and Safety Laboratory worked with the University of Liverpool to embed OSH elements into an undergraduate engineering course. This included the use of active learning methods and real accident case studies.

In Germany there are examples of inter-university faculties working in partnership to pool knowledge and resources to develop and share e-learning resources (NOP-online and KMR 'Dangerous substances in lab courses').

At the Dublin Institute of Technology, Ireland, the safety services involve the students' union in a participative approach to ensuring the university meets its OSH obligations and to promoting an OSH culture.

In the Lacobus contest, France, architecture students must incorporate OSH into designs for architectural restoration projects. Other projects in France have engineering and architecture students working together on projects.

Overall conclusions

Ultimately the way forward should be to develop a 'whole-university' approach to creating a safe and healthy work and learning environment combined with risk education. The approach should combine OSH management to prevent risks with raising awareness and developing knowledge, skills and safe attitudes and behaviour in students and staff, including professors and technical, administrative and support staff. Support is needed to transfer existing examples of good practice and interventions at the university level and an exchange of both ideas and concrete tools is needed.

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