Safe Supervision of Postgraduate & Undergraduate Students

Health and Safety Responsibilities of Supervisors towards Postgraduate and Undergraduate Students

Introduction

The attached document provides guidance for Principal Investigators and Academic Supervisors in respect of the supervisory aspects of their role in ensuring the safety of their students. Further information on the health and safety responsibilities of Principal Investigators and Academic Supervisors is available on the Safety Office website.

This document implements CVCP Guidance that was originally produced in the light of changes in legislation and following accidents in laboratories some years previously that resulted in criminal prosecution of the relevant university in one instance, and the lecturer in the other.

Guidance objectives

The University has a responsibility under Health & Safety legislation to provide task supervision (not to be confused with academic supervision) for both undergraduate and postgraduate students to the extent necessary to ensure that they are able to perform their work safely. This guidance considers both categories of student. Most of it is directed towards postgraduate students since the work of undergraduates is usually controlled by the protocols forming the practical side of their course work.

The objectives of the guidance are to ensure that:

(a) the supervisory aspects of the preventative measures identified by the risk assessments required by the Management of Health & Safety at Work Regulations 1999 are fully considered, and

(b) The students concerned are informed of those aspects of their work where closer supervision of these tasks is needed for the work to be carried out safely.

The Guidance

The duty to provide supervision of students' work activities to ensure their safety is delegated to the Head of School/Department and subsequently to the members of staff directly responsible for the work (the PI/Academic Supervisor). The purpose of this element of student supervision is to ensure that those activities with attendant risks are carried out in such a way that the precautions necessary are correctly applied.

Effective supervision will be based on School/Departmental procedures, systems of work and monitoring arrangements. In the case of postgraduate students the duty of the supervisor cannot be discharged solely by relying on the student's status or competence. Initial training of new postgraduate students in safe operating procedures is an essential element of this duty.

Supervision itself is a flexible concept which varies from close and direct involvement with the student in the tasks whilst they are being learnt, to a more distant approach once competence is demonstrated, at which point it becomes a guiding and monitoring activity to ensure that deviation from the safe procedure is not occurring and that other hazards are not being introduced. Consequently, the supervisor will not be required to be directly present during the performance of all tasks although an awareness of the activities of the students under his or her control will be needed and they should be available. There will of course be some tasks in which the risks involved necessitate the direct presence of the supervisor to ensure their safe execution.

Continued supervision of the student will be needed during periods of absence by the supervisor. There will be a need therefore to have mechanism to provide this cover. The simplest method would be to have prior nomination of the "deputy supervisor" to accommodate sudden absences such as through illness. The role of the deputy would usually be limited to being aware of the student's activities and competence, and being reasonably available for consultation by the student. Direct task supervision of the student should await the return of the student's own supervisor unless the necessary competent support can be provided, for example by the supervisor personally or by other research workers or technicians - (see below - penultimate paragraph).

Application to undergraduate work

For routine undergraduate practical work the risks associated should have been minimised by the design of the experiment or task. The work should be carried out following the written protocol for that work. Supervision of the practical session will be by the responsible academic and/or appointed competent nominees for whom the academic will be responsible.

The extent to which direct task supervision will be needed will depend upon the residual risks of the work, i.e. those which cannot be minimised by the experimental design. The supervisory provision should be sufficient to allow monitoring of the group as a whole with an allowance for those elements where direct task supervision is needed so as to avoid dilution of the general supervision of the group. It is anticipated that these considerations will be broadly in line with the academic requirements for supervision.

For undergraduate projects the supervisor should ensure that the risks of the work have been assessed and that it complies with relevant procedures and local rules etc. The precautions necessary to prevent personal harm should be written down and explained to the student. These precautions should include those elements of the project where direct supervision of the task is needed for safety reasons and who will provide it.

Effective or adequate supervision does not mean that constant attendance by the supervisor is either necessary or usually required although he or she should be reasonably available. The supervisor should check that the student is following the correct procedures and that alterations are not introduced without consultation. The student should not work alone in the laboratory and for low risk activities it would be sufficient under the above circumstances if other members of the research group are close by. The supervisor or authorised nominee will of course need to be in attendance where a greater degree of care is needed to prevent danger.

Application to postgraduate work
Those activities carried out by a research group that have attendant dangers require risk assessments to be done (Management of Health & Safety at Work Regulations 1992). The risk assessment, having identified the hazards involved, how they can occur and the likely consequences, should specify the precautions to be taken to prevent danger.

Where minor hazards are involved, such as where the worst consequences can easily be dealt with by first-aid, and where the precautions are simple to use, then comprehensible written instructions or protocols would be sufficient. The supervisor should ensure that the student has been instructed in these and understands them. Adherence to these should also be monitored by the supervisor, for example from his or her direct observations from regularly seeing the student at work. The supervisor may also receive feedback from other members of the research group about the student's ability to work to the procedures.

Where the hazard could cause severe consequences, such as serious personal injury arising from loss of containment of toxic or flammable material, release of energy such as pressurised gas, high energy laser or electricity or from dangerous machinery and where lack of knowledge or experience could cause an error to be made in applying the precautions, then the risk assessment should also specify the training and competence needed to perform the task. The complexity of the precautions also needs to be taken into account, since increased complexity could increase the likelihood of a failure to correctly apply them. If the work requires more than one person to be involved in it for safety reasons, then this should also be stated. Once the student has been trained in the safe performance of the task and has satisfied the supervisor of his or her competence, then the student could be authorised for this without direct supervision.

Research is a dynamic activity with the nature of the work and experimental technique changing as the work progresses. The simplest method of linking the various risk assessments to the project would be to list those relevant to the project that entail particular training and supervisory requirements. (See template form below.)This list of the projects' supervisory requirements would thus contain those research tools which are available for the project and pose the highest risks. For the detail the supervisor and student should refer to the actual risk assessment which need not be reproduced in the list.

The list would serve in effect as a training record and a means for authorising the student to use the equipment or procedure in accordance with the protocol contained in the risk assessment. It would be updated by the supervisor as competence in these is demonstrated.

The following categorisation of the supervisory requirements should be used:

Category A
The task must be directly supervised;

Category B
The supervisor's advice and approval must be sought before the task is performed;

Category C
The work entails risks requiring careful attention to the safety related aspects of it and the student has been trained in the work and has demonstrated competence;

Category D
The risks are insignificant and carry no special supervision considerations.

It will only be necessary for the list to consider categories A to C. In the preparation of the risk assessment the supervisory category should be included. This should be the baseline category appropriate to someone inexperienced in the work. The work can be re-categorised once the individual has become competent. Only category A and B work would need listing, with category C being a re-categorisation option to be used. Category D would be used in the risk assessments only as a way of confirming that the element has been considered. It is not relevant to this procedure which considers the major risks.

For example, a high risk activity would be categorised as A and subject to close task supervision whilst experience is being gained. Once competent, the person could in effect be authorised to take greater responsibility for the work which should be re-categorised by an amendment to that individual's project outline. The student could then perform that procedure without direct supervision subject to any other requirements of the risk assessment or School/Departmental procedures such as "out of hours working".

In many cases the work could be re-categorised from A to C. However, there are liable to be circumstances where closer control is still required because of the nature of the hazard and the potential for it being realised. A second competent person may be needed in attendance or a modification may be proposed and discussion with the supervisor on this will be needed. This would represent a change to category B. Where new or unforeseen procedures need to be carried out then the project outline should be similarly updated.

The list should be restricted to high risk activities as defined earlier since it is concerned with instances where a high level of task supervision is required. This should greatly limit the number of tasks which need to be included and facilitate updating as necessary.

In many areas the facilities available will be more or less common to all the students in that group. The simplest means of complying with this guidance would be to use a generic sheet of all the group's high supervision tasks, a copy of which is then used for each student. A copy of a suitable form for the list is available from the Safety Office website. It is entitled "Project Supervisory Requirement Form" (Word format). Unless this format presents any particular problems to a Department or group, it is recommended that this is adopted.

Both the student and the supervisor should retain a copy and both copies should be updated. In this way it serves to confirm to the student which tasks are subject to certain restrictions.

Within the above framework both technical staff and other experienced and competent postgraduates could be used as a training resource in the group where they possess the necessary skills. It would remain the responsibility of the academic supervisor to ensure that the technicians or postgraduate was competent to provide the instruction needed.

The academic supervisor would also be responsible for assessing the competence of the recipient for the purpose of authorisation.

The system described above could equally well be used to provide training for any new research workers, including visitors, research assistants and technicians. It is recommended that this is adopted unless there is already a similar system in place.

See template form (Word format) for recording supervisory requirements.