



Best Practice for the management arrangements of practical work at UCL

Introduction

As part of UCL's positive Health and Safety culture, when best practice is established in a department, this will be communicated to the UCL as a whole so that the organisation can learn and improve together.

The Department of Chemistry has made a number of significant changes to their management arrangements of laboratory experiments which are considered by Safety Services as best practice and should be reviewed by other departments with the intent to either implement them or something similar that will have the same effect.

The Department of Chemistry (Chemistry) working closely with their faculty lead (MAPS) established this best practice after reviewing incidents that have occurred over several years and good practice in other Chemistry departments.

Summary

The aim of the changes are to ensure that the management system "fails to safe" since it was found that the current system had a tendency to rely on students raising matters to their academic supervisors, rather than proactive management by all levels of management. The changes made to the system ensures that, although students are still taught to be proactive about their health and safety, academic supervisors and other people within the management structure also have proactive rather than reactive roles, ensuring that health and safety is everyone's responsibility.

Best practice

1. Specific risk assessment training for all students. (Ensuring there is minimum competence standard)

Chemistry provide significant training for their undergraduates in risk assessment, however >60% of the postgraduate students did not gain their undergraduate degree at UCL and therefore are not trained in UCL's format for risk assessment.

Information is given both by UCL and by Chemistry on risk assessment, as it a compulsory part of a department's organisation and arrangements (O&A) to provide the procedure for risk assessment in the departments. Chemistry found that this relied on the student reading and understanding the material given and did not provide a safe environment for the student to practice writing suitable and sufficient risk assessments. For masters students there could also be a time lag in receiving this information, from the beginning of the academic year and when the student would use the information to the start of their project in the following March.

Chemistry have made the following changes

- a) The induction health and safety meetings for PhD and masters students has been made more interactive.
- b) Chemistry run a compulsory training session for masters students, where the delegate write a risk assessment using the UCL system. This course is run twice a year before the projects start.
- c) Chemistry hold safety townhall meetings (at least twice a year). Attendance is compulsory for all academic staff, technical staff, research staff and research students. Guest speakers are invited to help establish and emphasise the importance of good working practices across all organisations.

2. Supervisors are trained to UCL standards in risk assessments, (ensuring suitable and sufficient risk assessments)

Chemistry found that it was possible for pockets of bad practice to become established. If a student's risk assessment is approved when it is not suitable and sufficient, when that student progresses and becomes a supervisor themselves, they do not necessarily have the experience to correctly assess the risk assessment that they are approving leading to the same mistakes being made.

Chemistry made the following changes

- a) Introduced a "suitable and sufficient" risk assessment course run by the HoD for all academic supervisors.
- b) Made a similar course run by the DSO compulsory for all post docs.
- c) Stopped risk assessments and therefore experimental work being able to be approved by people who had not completed the course.
- d) Provide an additional checklist for approvers signing overnight experiments to provide a reminder on what has to be covered for every risk assessment. This document is retained by the researcher.

3. Risk assessments are used to ensure safe working procedures are followed and improved.

Chemistry found that another reason for pockets of bad practice being established was the culture of seeing risk assessment as "tick box" exercise as there was no formal supervision, in some cases, of those who were considered competent in writing risk assessments.

Chemistry made the following changes

- a) Formalising the Academic supervisors checks on risk assessment contained in the lab books
 - a. Master's students' books will always be checked by the Programme Directors at personal tutor meetings, looking at past and present risk assessment to ensure that corrective action is taken if necessary.
 - b. For PhD student, their books will be checked during their oral examinations in their 1st and 2nd year in addition to the written reports of the research outcomes.
- b) Generic – approved equipment or process specific risk assessments which are kept on riskNET will be reviewed and a plan put in place to ensure that these risk assessments meet the standards for suitable and sufficient risk assessments set by the department.

- c) It is now compulsory for Masters students to go on a course on academic writing. The aim is to ensure that people can gain and use information for risk assessments from other sources in addition to the SDS (safety data sheet)

4. Approval of risk assessments is given only when it has been assessed as meeting the suitable and sufficient standard.

Chemistry found that part of the “tick box” culture was the expectation that a risk assessment would be approved immediately. It is known that experiments sometimes do not work and need to be rerun, or that they will overrun. It is these cases Chemistry found that there was high likelihood that supervisors would be asked to approve experiments to be left running that evening or weekend. This could result in the supervisor feeling pressurised or rushed to approve which could result in a higher chance in a mistake.

Chemistry made the following change

- a) Each group within chemistry has been asked to look at their procedure of approvals. There was no system that would work for the entire department, However the following framework was established
 - a. The use of the unattended experiment form.
 - b. The expectation that the first risk assessment for an experiment (before it is started) should include the action expected not just in an emergency but the risks and resulting actions should the experiment need to be re-run/ left unattended.
A checklist has been issued for supervisors that reminds what is expected to be covered to ensure that risk assessment are suitable and sufficient. At the moment this a separate sheet, but there are plans to incorporate it into the risk assessment forms.

5. Access to equipment and chemicals is limited to those with proven competency

Chemistry found that due to the type and information given in training not being formalised and experience not being recorded, there was no standard for competency rather it was left to both the student’s and their supervisor’s judgement. This had the possibility of a student believing they were competent and not seeking approval as they believed it was not necessary.

Chemistry made the following changes

- a) Access to equipment that require specific training (to be agreed by the Academic Supervisor) to require explicit authorisation rather than being borrowed on an ad-hoc basis.
- b) Although some groups use different methods to record lab based training and competency, Chemistry plan to work with Safety Services and other UCL departments and formalise a department wide “safety passport” which will record what requires additional training and competence and record the individual progress for each of those techniques/ equipment which is relevant to their research / course.

Summary of Best Practice

1. Specific risk assessment training for all students. (Ensuring there is minimum competence standard)
2. Supervisors are trained to UCL standards in risk assessments, (ensuring suitable and sufficient risk assessments)
3. Risk assessments are used to ensure safe working procedures are followed and improved.
4. Approval of risk assessments is given only when it has been assessed as meeting the suitable and sufficient standard
5. Access to equipment and chemicals is limited to those with proven competency

Document control

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