

# Project Report: **Diversifying Assessment 2: Posters and Oral Presentations in Undergraduate History of Science**

---

**Louise Jarvis and Joe Cain**

*Department of Science and Technology Studies  
University College London*

---

## Introduction

This paper is the second in a series on strategies for diversifying assessment within the practical constraints of operating BSc degree programmes. The first paper considered improvements to set essays and final examinations, as well as alternative projects within these general formats (Jarvis and Cain, 2002). The present paper focuses on posters and oral presentations. It also introduces assessment via role-playing projects.

Our underlying methodology was an extensive survey and synthesis project that made use of a wide range of relevant material in the education literature. In collating this material we sought practical advice on the design, implementation, and likely problems associated with introducing these project types into an overall assessment strategy.

## Posters

Posters are self contained visual displays of information created either by groups or individuals. Posters can represent an alternative assessable product in projects that typically lead to traditional outcomes such as essays. They can combine varying amounts of text and images. When material is affixed to a backboard, posters are portable. The same project can be undertaken using notice boards or display cases.

Submission of posters can be combined with oral presentations or other assessment tools. Presentation also can be organised into public displays, with wider audiences invited to view the results and discuss the underlying projects with the student creators. Posters can be assessed as the finished product of a course project. They also can function in

formative assessment, either presenting research-in-progress in a finished poster or presenting work using a display that is partially complete. Different stages of a poster project can support peer and self assessment.

*Benefits:* Though uncommon in humanities courses, posters are common assessment tools in science programmes, and they are a common means for professional communication in the sciences. Often a science student's first professional presence occurs through a poster session at a conference. Professional societies frequently run student poster competitions. The standard of production can be excellent, even when undertaken by novices. The widespread culture of poster production in science means experienced colleagues and samples are nearby. (Posters made for professional meetings normally can be found on display in the corridors of most science departments.) A great deal of advice is available in print and on-line for tutors and students alike and for all stages of the process.

Posters can be set as the outcome for the same kinds of projects normally producing essays or reports. They simply focus work towards a different written outcome. The presumption is false that topics for posters must be inherently visual. Students will find creative solutions when tutors demand more than an essay glued to a backboard. Underlying projects for posters can be predominately descriptive, but posters work better for projects demanding analysis or synthesis (on the cognitive distinctions, see Biggs, 1999). The limited space of a poster forces students to prioritise and focuses their effort on key arguments and evidence, key themes, or key conclusions. Posters provide opportunities to emphasise schematic structures for narrative and argument. Though a great deal of descriptive effort may occur in preparation for a poster, the restrictive format forces students to leave this aside and press further. Brown and Knight (1994) argue the quality of student learning through posters parallels the learning achieved through set essays. The added value of poster assessment occurs in the additional skills the assessment promotes as well as through the demands the project places on condensed exposition.

Posters are designed to be public objects. Students will be keenly aware that their audience may extend beyond the tutor. This promotes student ownership of their work while also placing a subtle additional pressure on them to work to a higher standard. Their friends are watching. In this context, a tutor's praise of student competence and learning achievements in such displays can have important long-term

consequences for student motivation and engagement (Fallows and Ahmet, 1999).

Poster projects represent an excellent response to problem areas often raised in curriculum debates. Compared with essays, posters not only develop research and analytical skills, they also promote key skills related to presentation and the visual display of information (UCL, 1999–2000; Fallows and Steven, 2000; Murphy, 2001). They promote active learning (*c.f.* Berger, 1998). They have practicality for large groups and can reduce overall marking time (Rust, 2001). They can involve students in the assessment process (Race, 2001). Poster projects are ideal for group work and collaboration (Thorley and Gregory, 1994; Hunter, et al., 1996; Jaques, 2000; Nicholson and Ellis, 2000).

Importantly, poster projects promote some skills rarely developed in university education outside specialty arts courses. The chance to use rarely credited skills—such as visual and oral presentation skills—enhances overall impressions of fairness (Gipps, 1994). The hands-on approach promotes creativity on both visual and compositional levels without compromising other course demands on content and methodology.

For tutors, use of posters reduces the risk of plagiarism and simplifies detection (Carroll and Appleton, 2001; Stefani and Carroll, 2001). Assessing posters requires less time than essays, especially when checklists are used as rubrics or when marking is undertaken in a session format. Posters completed for one course can serve as models for another. They also can serve as displays in the department and can be used both for recruitment and reinforcement of good practice. More important, the display of completed posters promotes an environment of learning outside the lecture.

*Recommendations and Implementation:* Posters function as an assessable product linked to a course project. Students often confuse means for ends when producing course work, and this is especially common with unfamiliar products such as posters. Some might think that “making the poster” is the central task to be undertaken; provided “it looks nice,” a slight product will receive high marks. (The same confusion certainly occurs in essay writing.) Students who focus their attention solely on their performance skills forget that examiners use the presentation as a way to access performance regarding the underlying project. Clear instruction and criteria for assessment will reinforce a tutor’s interest in substance.

Expectations for the underlying project should be placed in the foreground. What learning does the tutor expect to occur in the underlying project? What cognitive skills (such as description, analysis, or synthesis) represent the aims for the project? What observable actions (compare and contrast, assess, argue, identify, locate, prioritise, and so on) can a student use to demonstrate their mastery of the expected cognitive skills? What are the expectations for research and sources? These instructions are common to all projects. Projects with posters are no different.

The poster serves as a medium for communicating results or demonstrating expected skills. Criteria for assessment for essays normally include aspects of composition and exposition (Crème and Lea, 1997; Rael, 2000). Assessment of posters can follow the same process. Brown, Bull and Pendlebury (1997: 134) provide a prototype marking-scheme for poster presentations. Innumerable rubrics for assessing posters are available on-line. Search using key words “student poster rubric” or “student poster assessment,” but these rubrics tend to be created for primary and secondary level work (for a portal, see e.g. Barnard, 2000). Rubrics should distinguish criteria associated with the underlying project (research methods, content, analysis, and synthesis) as well as criteria associated with display (exposition, clarity of design and visual impact, creativity of display).

Tutors should include in their assessment criteria themes related to the poster as a distinct form of communication or else the default expectation for students may be an essay stapled to a poster sheet. Tosney (2001) is superb as an expression of expectations for visual displays. Purrington (2002) combines general and local guidance for students, including a downloadable template. Gosling (1999) aims for advanced design concepts. When setting the assignment, sample posters should be available for students to examine. They can be asked to identify strengths and weaknesses in these samples as part of their introduction to the assignment. A discussion of strengths and weaknesses can easily lead to an explanation of learning objectives and assessment criteria.

Tutorials or guidance on poster design should be included in the learning schedule. Students should not be left simply to “get on with it.” Tosney (2001) and Levene (1996) provide excellent sources of practical advice. Stoss (2000) presents an useful on-line bibliography for poster projects, including a substantial literature review, tutorials for tutors and students, and sites with sample posters on display. Radel (1999)

combines posters with oral presentations. For basic design concepts related to desktop publishing, Williams (1994) is superb for beginners. Additional materials are available online; search using key words “create an effective poster”.

Tutors can build formative stages into poster projects. To learn design principles, tutorial groups can be asked to create a mock poster from material provided by the tutor. For example, to prepare for posters resulting from descriptive projects, students might be asked to sketch how they might present the rules of a card game, guide tourists around the university, present staff in the department, and so on. For analytical projects, students can be asked to consider core themes from a course lecture, some other course, a current event, a cultural icon, and so on. Tutorials also can focus on evaluation of finished products such as sample posters, products from previous years, or those borrowed from colleagues. This offers an ideal forum for negotiating criteria for assessment and easing students into an unfamiliar project.

Focusing on the students’ own projects, tutorials can proceed sequentially through design stages. First, construction of content plans and concept maps provide a means for identifying the substance to be displayed and setting priorities. Second, presentation strategies can be discussed, practiced, and tested on peers for their effectiveness. Advice can be shared through formative peer assessment. Third, components for the finished product can be drafted and considered. The point here is that formative stages can be included in the poster construction process. These training stages are likely to result in increased engagement in the learning process and finished projects closer to tutor expectations. A sequenced approach also reduces student anxiety about an unfamiliar form of assessment.

Producing the text and layout for a poster requires students to reflect on what constitutes the core results of their research, the thesis to be argued, or the analysis to be provided. Encourage students to make choices and set priorities. Their research phase may produce considerable volumes of data and analysis, but posters require selectivity and reflection. Remind students that this is one of the learning objectives for the project. Tutors might consider the submission of research notebooks as a complement to ensure students feel they receive credit for work done. Use of research notebooks also can aid reflection within the project (Davis, 1998) Examples of this approach are described in Rusnock (1999). Students might be tempted to supplement posters with

written essays. Tutors should reflect on how this might subvert the project's original objectives.

Guidance should be given on adequate and appropriate layout and graphic design. Overall design should contribute a fixed amount to the overall assessment to preserve a relative balance between style and substance. Sample posters or displays will help students visualise plausible products and to draw distinctions between use of design principles and overuse of elaborate tools. Assistance or additional training may be needed for more elaborate graphic design or desktop publishing approaches.

Combining posters with oral presentations allows examiners to probe depth and breadth of research and analysis. It also promotes selectivity in poster design as students need not feel limited by choosing to omit material from their posters. Expectations for presentations should stress a need to avoid mere recitation of poster content. Assessment of oral presentations also provides an immediacy of feedback that not only plays formative roles for students but also reduces marking time. Alternatively, posters might be displayed in a room with their creators present. Examiners and peers can then circulate through the exhibit asking questions. In this case a standard feedback form can be used. Both oral presentation and display are suitable for peer assessment, too. Standard assessment forms can bring uniformity to this process, and student assessors can be marked on the soundness of their assessment or value of their comments (see Brown and Knight, 1994: 79 for an example).

Identifying the audience for the poster is key for project expectations. In most cases, the intended audience will be peers or academic examiners. Alternative audiences can be defined. For example, projects aimed towards descriptive processes—skills such as identifying, describing, locating, and so on—can create posters directed to an audience of secondary school students. A poster assignment also could be built into projects to evaluate or supplement course material for secondary schools. They also can be linked to special events, such as commemorations.

*Potential problems:* Because posters are visual products, assessment will involve some aesthetic criteria (Brown and Knight, 1994). Student concerns about fairness will focus on the potential for subjective decisions by examiners, the natural aptitudes of their classmates for art and graphic design, and their relative facility with production software.

The use of multiple markers reduces the influence of any one examiner's assessment. A developmental approach to poster design improves the sense of student participation in setting aesthetic criteria and negotiating their concerns. More important, full marks for design or aesthetic features should be awarded for *sufficient* quality or for meeting *minimal* design standards rather than for extraordinary display of a skill. This approach counterbalances perceptions of unfairness because both excellent and sufficient displays receive the same result. (They do so because both achieve the specified outcome even though one might achieve it elegantly and another might achieve it haphazardly.)

An emphasis on sufficiency also compensates for any unevenness students may have in their access to or facility with complex production technologies. Caution students not to leap into complex production technologies—such as professional desktop publishing or graphic design software—to produce their posters. This uses a sledgehammer where a mallet will do. Unless learning objectives specifically identify the facility with a production technology as an assessed outcome, poster assessment should have a mechanism for keeping the focus on other outcomes and their sufficient attainment of actual criteria. Open-ended or vague criteria for marking should be avoided.

Large presentation sessions can be logistically difficult to organise. Auditing by additional and visiting examiners can be incorporated in a session format but co-ordination of schedules can prove difficult. Additional class or tutorial time will be required for guidance on project-specific elements, such as principles of visual display, effective design, development, and negotiating assessment criteria.

## Oral Presentations

Oral presentations require students to deliver prepared information at a scheduled moment during a course in a format largely of their own design and direction. This moment is both personal (students undertake the task in person) and substantially verbal (though other modes of communication can be involved, too). Oral presentations differ from class “participation,” such as in discussion groups, where participation normally is unscheduled and occurs in settings where other people design and direct the interaction. Presentations range in length, purpose, and expectation. They may pursue formative or summative ends (Knight, 2001). They may involve individual or group work, and assessment can

incorporate self and peer assessment. They may supplement another project or serve as a stand-alone project. Oral presentations normally involve delivery in a formal setting where the audience knows relatively little beforehand about what is to be said or accomplished. Strict time limits govern the interaction.

*Benefits:* The obvious benefit of presentations focuses on developing key skills related to communication. Most careers require communication skills along these lines; some require them far more than the kind of written skills fostered through written exams and essay assessments (Macintosh, 1974; UCL, 1999–2000; Murphy, 2001). Oral presentations also promote other personal skills, such as self-confidence. The formative experiences derived from first attempts at presentations reduce anxiety and improve performance in subsequent attempts.

Race (1995) argues students are encouraged by the demands of a presentation to undertake deeper revision of content and to increase their overall grasp of a subject. This results from an internal desire to present themselves well in public demonstrations of their abilities and to avoid embarrassment in front of peers and tutors. Learning outcomes, therefore, are more likely to be accomplished through presentations, especially when they include greater attention to research, greater engagement with the sources and overall deeper approaches to learning course material.

For the tutor, presentations serve as a check against irregularities. Presentations supplementing written projects override the rewards of plagiarism because students are forced to learn the presentation's content. They also will benefit little if plagiarising from a script or visual aids because the presentation format sets a functional task: what can the student communicate about the subject at hand? Examiners are free to set rules for presentations that prohibit the use of scripts and to use discussion periods to probe a student's depth and breadth of knowledge. This flexibility increases the validity of presentations as an assessment strategy.

Presentations generate positive student appraisals regarding fairness (Murphy and Torrance, 1988). Despite the anxiety many express at the moment of delivery, students report appreciating the opportunity to demonstrate their knowledge outside the constraints of written work (Race, 1995). This type of assessment provides rewarding opportunities for students who believe they have an aptitude for oral expression and communication. It also rewards students who work to refine those skills,

and it challenges those who attempt to specialise solely in skills related to set essays and examinations. Crediting students for broader skills is a key motivation underlying diversifying assessment. It enhances perceptions of equality and improves the overall validity of assessment across the range of abilities and personal aptitudes (Fallows and Ahmet, 1999).

*Recommendations and Implementation:* Within the overall assessment strategy for a course, oral presentations can be combined with other projects or set as stand alone outcomes for individual projects. However, students often object when a major project is assessed solely on the basis of an oral presentation. Their concern is the validity of this test as a measure of their mastery of the learning objectives. It places too many eggs in one basket. They fear inexperience or clumsiness with performance skills might muddle their delivery and thus prevent a tutor from appreciating their understanding of the topic.

Combined with other course work, presentations can be used for several purposes. They can form the capstone to a finished project in which students present their results and discuss their implications. Sivasundaram (2001) used oral presentations as a capstone examination for a course. In this setting, students were asked to reflect on course content and its reading list, then deliver a 15 minute presentation. This asked students to identify key themes in the course and elaborate some of those themes using particular case studies. An open-ended written component supplemented this delivery.

Alternatively, presentations can function as work-in-progress reports. This nicely combines multiple purposes: a presentation for developing communication skills simultaneously provides formative assessment for the underlying project (Cain, 2002: presentation notes). This use of presentations forces students to reflect on project design, project strengths and weaknesses, and the relative development of various components.

As another alternative, presentations can be combined with other project work, such as posters, Web work, or group projects. This provides a setting for students to describe their planning and research in preparation for the project as well as their reflections on their relative success in accomplishing the learning objectives. A presentation in this context also provides a means for examiners to probe the depth and breadth of student understanding and check for irregularities such as plagiarism. In group work, students can be asked to speak individually on components of the collective work. Allocation of topics can be made

beforehand by the tutor, left to the group to decide, or determined on the day of the presentation. Some of these approaches provide convenient checks on the relative balance of contributions within the group. When presentations are used to supplement other projects, tutors should stress the supplemental purpose of the presentation and make clear that they do not want a repetition of information provided in the other project.

As with all other assessed course work, criteria for assessment must be made clear from the start. To increase involvement, marking criteria can be negotiated. To begin their thinking about the nature of effective presentations, students might be asked to reflect on the relative strengths and weaknesses of their tutors' presentation skills. Students with past experience of presentations can be asked to reflect on the experience.

A great many rubrics for marking presentations are available online and in print. For a general discussion, see Race (1995). Barnard (2000) provides a portal to many rubric schemes. Brown, Bull and Pendlebury (1997: 159) provide a fine example of a rubric for the undergraduate level. Cain (2002: presentation marking sheet) provides another working example. Rubrics tend to divide assessment of presentations into several major categories:

- content (project aims and value explained, major findings identified, details presented clearly, skills displayed (description, analysis, synthesis), methodology explained)
- presentation skills (presentation aims made clear, overall organisation, pace, information presented clearly and concisely, kept on track, sense of preparation, easy to hear, easy to see)
- visual aids (visuals appropriate, saturation and competition avoided, is technology used well or distracting)
- questions (knowledgeable answers to questions, clarity, composure during answers)
- overall impressions (what sense do I have of the overall project from this presentation?)

Students often confuse means for ends when preparing presentations. They obsess about their performance skills while ignoring presentation content. Where content aims are primary, tutors can reinforce this priority in the relative weight of each category in the overall project mark. Tutors should discuss their assessment criteria with students, explaining their priorities and underlying aims. Is the tutor expecting to learn something about an underlying project (and thus will

look past fine points in the mechanics of delivery), or is the tutor testing oral communication skills (and thus willing to overlook weaknesses in content, methodology, or analysis)?

To advise students on communication and presentation skills, general guides for presentations offer varying levels of value. Though dated about technology, Mambert (1968) and Turk (1985) offer useful mixtures of practical and principled advice. Both place a heavy emphasis on clear thinking about the underlying project as the foundation for a presentation. Goodlad (1990) and Grant (1997) offer little more than a list of tips for improving performance skills. These tips are useful for refining skills after self-assessment but offer little help for novices. Grant (1997) and Radel (1999) provide a beginner's "how-to" guide for presenters, with presentations divided into core delivery skills—e.g., visual aids, physical skills, script-reading skills, question and answer sessions. For intermediate skills, Wood (1971) focuses on performance skills related to voice, stance, and presence as a drama coach might. Tutorials should be offered in which communication skills can be discussed generally and presentation skills can be discussed specifically. Analysis of videotapes or demonstrations provides fertile ground for reflection and learning by example. Students are quick to offer advice on what seems effective to them and what does not.

Advise students to practice their presentations. Most will think reading through their notes is sufficient, but encourage them to press further into full-scale, timed rehearsals. Access should be provided to the room where presentations are assessed so practice can take place in a realistic setting. This is especially useful for presentations involving technology, where the mechanics of operation need to be rehearsed. Practice in the space to be used during the assessment increases familiarity and comfort particularly as the perspective of a speaker in a room is much different from that of the student's typical perspective in the audience. Practice in speaking a presentation—delivering the talk in the actual voice—improves elocution and pacing.

Tutors should consider recording presentations for several reasons. First, owing to their ephemeral nature, presentations are difficult to audit by internal or visiting examiners without a more permanent record. Second, students can be encouraged to self-assess their communication skills. The perspective of a presenter-at-work normally is a poor one for assessment purposes. Recordings can be studied later. They also can form a library for later demonstrations. Finally, tutors can

study recordings to gauge their overall marking preferences and monitor consistency in their assessment.

Students are often “unduly negative” when evaluating their own performance. This is especially true when they undertake novel tasks (Brown, et al., 1997: 156). With this negativity in mind, tutors should make a point of providing at least some positive feedback, such as encouraging applause at the end of all presentations. Having a printed marking sheet in use will help students evaluate their performance more realistically, particularly where they will see that they can only lose a limited amount of marks for nervousness or stumbling over words. The weighting of the award scheme on the content of presentations should be made apparent.

Listening skills are correlated with communication skills, though they rarely are identified as key skills. The QAA benchmark statement for philosophy emphasises listening skills such as the ability to (i) listen attentively to complex presentations; (iv) reflect clearly and critically on oral and written sources, employing powers of imagination as well as analysis; (vii) construct cogent arguments in the evaluation of this material; and (viii) present, in both oral and written forms, a clear and well-structured assessment of relevant considerations (Altham, et al., 2000 [their numeration]). Presentation sessions provide ideal opportunities to assess listening skills because the examiner shares the experience with students and is not biased by knowing the speaker’s intentions. A project based on listening might ask students to listen to several presentations and identify their key elements, such as the thesis, argument, and evidence.

Tutors need not restrict presentations to conference-style talks. Alternatives can include debates, mock trials (MacKay, 2000), panel presentations, video recordings as in an interview, or in fish bowls (described by Brown, et al., 1994).

*Potential problems:* One key objection to presentations is the resulting stress (Race, 1995). However, students normally describe all types of assessment as stressful. Stress management skills can be introduced in the preparation process. Repeated exposure to the demands of presentations also tends to reduce anxiety and improve resilience. Students could be given several opportunities to record their presentation on video for later examination. This would allow them to select what they consider to be their best effort rather than placing all their anxiety on a one-off opportunity.

For tutors, a practical concern focuses on the length of time this assessment can take, especially if long presentations are required of each individual in a class (Race, 1995). Running presentations as group tasks, with each individual speaking for only a short time, reduces the overall load. Also, presentations can be carried out in class time, with all class members present. In this way the content of the presentations constitutes teaching for other class members who have not researched the same area as those making the presentation. In this way the formative element is greatly increased as students acquire increased material knowledge and also gain an impression of how presentations are done well or badly.

Two concerns focus on fairness. First, the lack of anonymity this assessment demands might lead to favouritism (Race, 1995). This criticism can be avoided if criteria are made clear, if peer assessment is introduced, and if a standard and available marking scheme is used. Secondly, oral presentations tend to favour students who have assertive or extrovert personality traits (Beard and Hartley, 1984). Using sufficiency criteria for the presentation skills component of assessment will limit the impact of any differences in this regard. Also, when combined with other non-interactive assessment forms, this benefit to certain students is balanced. On the other hand, a healthy balance of assessment tools will improve fairness overall, allowing students moments of relative comfort and relative challenge in comparable proportion.

Recording students' presentations raises issues related to student privacy. These recordings should be treated confidentially during the marking process and should only be seen by examiners. Permission of the student is required for other uses, such as for later peer assessment or demonstration, and anonymity should be maintained as a default rule. To avoid unauthorised use or copying, tutors should maintain physical control of recordings at all times.

## Role-Play

In role-play “participants take on the role of individuals representing different perspectives (e.g. a mock interview) to meet specific learning objectives, such as to promote empathy or to expose participants to a scenario ...” (Fry, et al., 1999: 398). Role-play may be designed as a written project (such as correspondence) or used in combination with presentation skills for either individual or group performances. These can involve one-way presentations (such as a letter, performance,

interview, or poster session) or interactions (such as in debate or exchange of letters).

*Benefits:* Role-play encourages student engagement with a research task by promoting personal interest (Habeshaw, et al., 1993). Walker and Warhurst (2000) report use of debate format increases student knowledge of course content and skills such as teamwork. This success probably results from the work requiring different approaches to problem solving than normally are used and has the effect of encouraging students to be flexible and creative in their approaches to other work. The personal investment students can make in role-play also promotes deep learning. In addition, students sometimes feel more compelled to undertake more thorough work when they can identify personally with the historical characters and moments represented in role-play.

Role-play tasks provide ample room for promoting keys skills. Hall and Rainier (2001) link role-play to drama and literacy. More important, role-play fosters empathy, which Fletcher, et al. (2000: 3) emphasise among the historian's "qualities of mind" and Haydn, Arthur and Hunt (2001: 124–151) emphasise as a strategy for promoting "historical understanding". Van Ments (1989), Shemilt (1984) and Lee (1984) agree. Historical role-play encourages students to consider the motivations of historical characters who often seem remote and divorced from their understanding of personal motivation (Fairclough, 1994). Appreciation for the complexities of decisions and historical contexts thus is enhanced through the new perspective offered by role-play tasks.

Interestingly, role-play also promotes skills useful in careers. Companies sometimes include assessed role-play tasks in their recruitment process (Van Ments, 1989). It can promote a supplier's appreciation for the needs of clients and competitors, an advocate's appreciation for their opposition's perspective, and so on. Role-play improves an individual's ability to respond sensitively and productively.

Role-play allows students to gain credit for creative work. This improves impressions of fairness, as students with an aptitude for this kind of work are given the opportunity to gain credit for their frequently overlooked skills. This kind of assessment may also appear more enjoyable and rewarding to students. This improves their appraisal of the task and increases their engagement.

*Recommendations and Implementation:* For history of science, role-play using correspondence projects is promoted by Chang (2002) to promote

knowledge of course content and by Marston (2000) to promote critical studies in biography. Jeckells (n.d.) presents material for role-play on Galileo's trial that is useful for both debates and presentations. Allchin's (2000) portal provides several other examples. (For other examples, search on-line using keywords "role-play" and "history of science".) For role-play examples in other disciplines, Granada Learning (n.d.) and Duff (1998) present a compact designs for debate over political issues. Alden (2000) provides a role-play project on environmental economics. Vincent and Shepherd (1998) present a role-play project on Middle Eastern politics that uses Web-mediated interaction. Fadali, Robinson and McNichols (2000) consider role-play opportunities in engineering. Role-play also is useful for learning projects in policy and ethics. AAS (n.d.) present the case of rabbit calicivirus in a role-play format where students are assigned particular advocacy roles. Role-play is a common element of active learning and assessment in primary and secondary education with many examples described on line (keywords "role-play projects") and in the journal, *Teaching History*.

Role-play connects with drama. BSHS (n.d.) emphasises drama as a way to explore "human qualities" in history of science. Tucker-Griffith (n.d.) implements dramatic projects for the topics spontaneous generation and *Microbe Hunters*. Dramatic work also has potential in projects emphasising story-telling (Rosen, 1993; Grugeon and Gardner, 2000).

For designing role-play projects, Van Ments (1989) and Chester and Fox (1966) provide extremely useful overall guidance for planning and preparation. Sutcliffe (2000) provides brief but useful advice on-line. McVitte (n.d.) focuses on pedagogical foundations in the design of role-play projects. Duff (1998) emphasises the importance of scenario building in pre-activity instruction. Haydn, Arthur and Hunt (2001: 82) provide a concise plan for implementing role-play projects in which the tutor constructs most of the material used; this can be adapted as a plan for students to manage their own projects. Ip's (2002) Web site provides a portal and bibliography for considering role-play as a general topic. Bolton and Heathcote (1999) defend a far less structured approach.

A key but subtle distinction in the design of role-play involves the distinction between tasks where a student assumes the personality and identity of a particular historical person versus tasks where the student retains their own identity but considers situations in the role of a passive but more knowledgeable observer (Van Ments, 1989). The appropriate selection of role-play type is therefore contingent upon the

material available and the desired learning objectives. This first approach is more appropriate to encourage in-depth appraisals such as in a complete biographical study. The second approach is more appropriate as a task by which to illuminate context and alternative perspectives.

Tutors should describe their expectations for role-play before undertaking these activities, with clear criteria for assessment (Van Ments, 1989). This can be done with student assistance, perhaps by showing them a sample of the material they will be producing. Student work improves when they understand the underlying learning objectives of this type of task; this prevents a impression that role-play is somehow detached from the syllabus. Assessment criteria should balance breadth and creative freedom with high academic standards for research, preparation, and accuracy. Students should have wide latitude to use creativity and imagination if their role-play is to be effective (Van Ments, 1989). Tutors need to be flexible and willing to accept experimentation within the overall framework of role-play.

Most guides emphasise a de-briefing session following role-play projects. These sessions provide opportunities for students to analyse interactions and interpret actions in terms of the role-play and in terms of their wider knowledge of the subject. Members of the audience can discuss what they observed and consider relevant empathies. Post-performance interviews in character can be useful mechanisms for de-briefing. Tutors should be sure that inaccuracies are corrected. Debriefing also plays a formative role for discussing presentation skills. Van Ments (1989) suggests a plan for debriefing sessions.

*Potential problems:* One major problem associated with written versions of the role-play task is the tendency for authorship to become sloppy or flippant (Habeshaw, et al., 1993), to fly into fantasy, or to treat such tasks “as too entertaining or frivolous” (Van Ments, 1989: 16). The sense of release from the normal constraints of essay style can produce a lapse of rigour. This can be countered effectively by the careful design of assessment criteria and good preparation. The forum for the imagined text should remain specific and explicit, and this should inspire appropriate style. For instance, projects to write newspaper articles should be directed to specific outlets, and letters should be written to influential characters, political figures, or again newspapers. Samples for comparison help steer this process. Expressed and specific marking criteria keep projects from diverging too far off the syllabus.

Tutors must appreciate that role-play, especially presentations, can be time consuming. Attention to group structuring and careful briefing of students can reduce the load, but the demands remain high. For examination purposes, oral presentations should be witnessed by multiple examiners or should be videotaped for record.

Tutors should make provision for scrutiny of assessment by additional examiners, especially for presentations, interviews, and debates. In these cases, class activities can function as formative assessment in preparation for submission of written materials. Alternatively, presentations can be videotaped and made available to additional examiners. A permanent record must be maintained in every case.

As an aside, role-play has a substantial constituency in fantasy or alternative worlds gaming communities. These are extensive in on-line and board or card game settings. This activity is not considered relevant to the present project and reflection on its pedagogy is hard to find.

## Conclusions

As with our other papers in this series, we realise our survey and synthesis approach only begins to engage the detailed issues concerning these alternative assessment tools. We don't aim to be exhaustive. We simply hope to contribute to ongoing discussions about objective-focused active learning and to ongoing considerations about the appropriateness of the assessment tools we choose to use in our courses. Rather than re-invent wheels for this project, we have assimilated the relevant literature into this discussion. The next paper in this series will consider other assessment methods, such as Web evaluation and construction. Another will examine ways to implement group work.

## Acknowledgements

This project was supported with funding from the Philosophy and Religious Studies Subject Centre of the Learning and Teaching Support Network. Thanks to Graeme Gooday for support. Thanks also to UCL's Department of Education and Professional Development for use of their library and to the Library of the Institute of Education, University of London.

## Bibliography

- AAS, "The Calicivirus Controversy: A Role Play", (Australian Academy of Science, n.d.) last modified: n.d.; accessed: 10 April 2002, location: <http://www.science.org.au/nova/001/001act05.htm>
- Alden, Dave, "A Role Play for Environmental Economics", (Department of Economics, University of Melbourne, 2000) last modified: 20 June 2000; accessed: 10 April 2002, location: <http://www.economics.unimelb.edu.au/roleplay.html>
- Allchin, Douglas, "Curriculum Modules", (Resource Center for Science Teachers using Sociology, History and Philosophy of Science, 2000) last modified: 15 Oct 2000; accessed: 10 April 2002, location: <http://www1.umn.edu/ships/modules/>
- Altham, J E J, Bowie, A S, Cameron, J R, Chadwick, R, Clark, S R L, Evans, J D G, Hooker, B, Hursthouse, R, Knowles, D R, Lloyd, I, Monk, R, Ree, J, Sorell, T, Trigg, R H, Wolff, J and Horton, D, *Philosophy* (Gloucester: Quality Assurance Agency for Higher Education, 2000), 9 pp.
- Barnard, Paula, "Rubric Resources", (Paula Barnard's Educational Resources for a Global Community of Learners, 2000) last modified: 30 January 2002; accessed: 15 March 2002, location: <http://www.asd.wednet.edu/EagleCreek/Barnard/sites/ed/rubric.htm>
- Beard, R. and Hartley, J., *Teaching and Learning in Higher Education, 4th edition* (London: Harper and Row, 1984), 333 pp.
- Berger, Pam, *Internet for Active Learners: Curriculum-based Strategies for K-12* (Chicago: American Library Association, 1998), 189 pp.
- Biggs, John, *Teaching for Quality Learning at University: What the Student Does* (Buckingham: Open University Press, 1999), 250 pp.
- Bolton, Gavin M. and Heathcote, Dorothy, *So You Want to Use Role-play? : A New Approach in How to Plan* (Stoke-on-Trent: Trentham, 1999), 187 pp.
- Brown, George, Bull, Joanna and Pendlebury, Malcolm, *Assessing Student Learning in Higher Education* (London: Routledge, 1997), 317 pp.
- Brown, Sally and Knight, Peter, *Assessing Learners in Higher Education* (London: Kogan Page, 1994), 161 pp.

- Brown, Sally, Rust, Chris and Gibbs, Graham, *Strategies for Diversifying Assessment in Higher Education* (Oxford: Oxford Centre for Staff Development, 1994), 317 pp.
- BSHS, “Using Drama to Bring Out the Human Qualities in Scientific Reasoning”, (British Society for the History of Science, n.d.) last modified: n.d.; accessed: 10 April 2002, location: <http://www.chstm.man.ac.uk/bshs/drama.htm>
- Cain, Joe, “Staff ... Dr Joe Cain”, (Department of Science and Technology Studies, University College London, 2002) last modified: Feb 2002; accessed: 8 March 2002, location: <http://www.ucl.ac.uk/sts/cain/index.htm>
- Carroll, Jude and Appleton, Jon, *Plagiarism: A Good Practice Guide* (Oxford: Oxford Brookes University and Joint Information Systems Committee, 2001), 43 pp.
- Chang, Hasok, “HPSCB218: History and Philosophy of the Physical Sciences Syllabus”, (Department of Science and Technology Studies, University College London, 2002) last modified: 8 January 2002; accessed: 8 March 2002, location: <http://www.ucl.ac.uk/sts/admin/syllabus/>
- Chester, Mark and Fox, Robert, *Role-playing Methods in the Classroom* (Chicago: Science Research Associates, 1966), 86 pp.
- Crème, Phyllis and Lea, Mary R., *Writing at University: A Guide for Students* (Buckingham: Open University Press, 1997), 160 pp.
- Davis, Mary Beth L., “Interactive Learning Within the Self: Writing the Research Notebook to Heighten Critical Thinking Skills”, (Department of Medieval Studies, Central European University, 1998) last modified: 29 March 1998; accessed: 4 April 2002, location: <http://www.cep.org.hu/teachandlearn/szeged98/davis.htm>
- Duff, Robin, “Appeasement Role Play: the Alternative to Munich”, *Teaching History*, 90, 1998, 17–19.
- Fadali, M. Sami, Robinson, Mike and McNichols, K., “Teaching Engineering to K–12 Students Using Role Playing Games”, 2000) last modified: n.d.; accessed: 10 April 2002, location: <http://www.asee.org/conferences/search/20603.pdf>
- Fairclough, John, *History Through Role Play* (London: English Heritage, 1994), 36 pp.
- Fallows, Stephen and Ahmet, Kemal (ed), *Inspiring Students: Case Studies in Motivating the Learner* (London: Kogan Page, 1999), 180 pp.
- Fallows, S. and Steven, C., *Integrating Key Skills in Higher Education* (London: Kogan Page, 2000), 251 pp.
- Fletcher, A, Arnot, M, Bates, D, Clark, C, Daunton, M, Dickinson, H, Doran, Susan, Doyle, W, Eastwood, D, Evans, E, Jones, A, Lloyd-Jones, R, McFarland, E, Porter, A, Stafford, P and Tosh, J, *History* (Gloucester: Quality Assurance Agency for Higher Education, 2000), 12 pp.

- Fry, H, Ketteridge, S. and Marshall, S., *A Handbook for Teaching and Learning in Higher Education* (London: Kogan Page, 1999), 408 pp.
- Gipps, Caroline, *A Fair Test? Assessment, Achievement and Equity* (Milton Keynes: Open University Press, 1994), 308 pp.
- Goodlad, Sinclair, *Speaking Technically: A Handbook for Professional Scientists and Engineers on How to Improve Technical Presentations* (London: Sinclair Goodlad, 1990), 75 pp.
- Gosling, Peter J., *Scientists' Guide to Poster Presentations* (London: Kluwer Academic, 1999), 139 pp.
- Granada\_Learning, "Treaty of Versailles Role Play", (YITM, n.d.) last modified: n.d.; accessed: 10 April 2002, location:  
[http://www.granada-learning.com/yitm/ww1/case\\_studies/role\\_play/](http://www.granada-learning.com/yitm/ww1/case_studies/role_play/)
- Grant, Alastair, *Presentation perfect: how to excel at business presentations, meetings and public speaking* (London: The Industrial Society, 1997), 107 pp.
- Grugeon, Elizabeth and Gardner, Paul, *The Art of Storytelling for Teachers and Pupils: Using Stories to Develop Literacy in Primary Classrooms* (London: David Fulton Publishers, 2000), 128 pp.
- Habeshaw, S., Gibbs, G. and Habeshaw, T., *53 Interesting Ways to Assess Your Students* (Bristol: Technical and Educational Services Ltd., 1993), 191 pp.
- Hall, Nigel and Rainier, John, *Being in Role: Literacy, Drama and Role Play* (Reading: Reading and Language Information Centre, University of Reading, 2001), 28 pp.
- Haydn, Terry, Arthur, James and Hunt, Martin, *Learning to Teach History in the Secondary School: a Companion to School Experience, 2nd edition* (London: RoutledgeFarmer, 2001), 301 pp.
- Hunter, Dale, Bailey, Anne and Taylor, Bill, *The Facilitation of Groups* (Aldershot, Hampshire: Gower, 1996), 212 pp.
- Ip, Albert, "Role Play Simulation for Teaching and Learning", (Albert Ip, 2002) last modified: n.d.; accessed: 10 April 2002, location:  
<http://www.roleplaysim.org/papers/>
- Jaques, David, *Learning in Groups: A Handbook for Improving Groupwork, 3rd edition* (London: Kogan Page, 2000), 310 pp.
- Jarvis, Louise and Cain, Joe, "Diversifying assessment 1: essays and examinations in undergraduate history of science", *PRS-LTSN Journal*, vol. 2, no. 1, 2002.
- Jeckells, David, "The Retrial of Galileo", (Nottingham Trent University, n.d.) last modified: n.d.; accessed: 10 April 2002, location:  
[http://education.ntu.ac.uk/resources/ict\\_resources/Galileo/](http://education.ntu.ac.uk/resources/ict_resources/Galileo/)
- Knight, Peter, *A Briefing on Key Concepts: Formative and Summative, Criterion and Norm-Referenced Assessment* (York: Learning and Teaching Support Network, 2001), 28 pp.

- Lee, P. J., “Historical Imagination”, in Dickinson, A. K., Lee, P. J. and Rogers, P. J. (ed), *Learning History* (London: Heinemann Educational Books, 1984), pp. 85–116.
- Levine, Marilyn A., “Creating Posters for Humanities and Social Sciences”, (Division of Social Sciences, Lewis-Clark State College, 1996) last modified: 4 September 2001; accessed: 15 March 2002, location: <http://www.lcsc.edu/ss150/poster.htm>
- Macintosh, Henry Gordon (eds), *Techniques and Problems of Assessment* (London: Edward Arnold, 1974), 285 pp.
- MacKay, Charles, “The Trial of Napoleon: A Case Study for Using Mock Trials”, *Teaching history*, 25, 2000, 59–68.
- Mambert, W. A., *Presenting Technical Ideas: A Guide to Audience Communication* (New York: John Wiley and Sons, 1968), 216 pp.
- Marston, Paul, “Great Astronomers in History”, (Department of Physics, Astronomy, and Mathematics, University of Central Lancashire, 2000) last modified: 13 September 2000; accessed: 10 April 2002, location: <http://193.61.251.88/pasm-dlearning/info/AA1066.htm>
- McVittie, Janet, “Epistemology and Sociology of Science for Teaching”, (College of Education, University of Saskatchewan, n.d.) last modified: n.d.; accessed: 10 April 2002, location: <http://www.usask.ca/education/coursework/mcvittiej/edcur421/syll421.html>
- Murphy, Roger, *A Briefing on Key Skills in Higher Education* (York: Learning and Teaching Support Network, 2001), 20 pp.
- Murphy, R. and Torrance, H., *The Changing Face of Educational Assessment* (Milton Keynes: Open University Press, 1988), 126 pp.
- Nicholson, Tony and Ellis, Graham, “Assessing Group Work to Develop Collaborative Learning”, in Booth, Alan and Hyland, Paul (ed), *The Practice of University History Teaching* (Manchester: Manchester University Press, 2000), pp. 208–219.
- Purrington, Colin, “Advice for Designing Scientific Posters”, (Swarthmore College, 2002) last modified: 2002; accessed: 15 March 2002 2002, location: <http://www.swarthmore.edu/NatSci/cpurrrin1/posteradvice.htm>
- Race, Phil, “The Art of Assessing”, *New Academic*, 4 (3), 1995,
- Race, Phil, *A Briefing on Self, Peer and Group Assessment* (York: Learning and Teaching Support Network, 2001), 24 pp.
- Radel, Jeff, “Effective Presentations”, (Kansas University Medical Centre, 1999) last modified: July 1999; accessed: 15 March 2002, location: <http://www.kumc.edu/SAH/OTEd/jradel/effective.html>
- Rael, Patrick, “Reading, Writing, and Researching for History”, (History Department, Bowdoin College, 2000) last modified: August 2000; accessed: 4 April 2002, location: <http://academic.bowdoin.edu/WritingGuides/>

- Rosen, Betty, *Shapers and Polishers: Teachers as Storytellers* (London: Collins Educational, 1993), 189 pp.
- Rusnock, Andrea (eds), *Women, gender, and the history of science syllabus sampler* (Seattle, WA: History of Science Society, 1999), 150 pp.
- Rust, Chris, *A Briefing on Assessment of Large Groups* (York: Learning and Teaching Support Network, 2001), 25 pp.
- Shemilt, D, “Beauty and the Philosopher: Empathy in History and Classroom”, in Dickinson, A. K., Lee, P. J. and Rogers, P. J. (ed), *Learning History* (London: Heinemann Educational Books, 1984), pp. 39–84.
- Sivasundaram, Sujit, “HPSCC399: Colonial Geographies of Science Syllabus”, (Department of Science and Technology Studies, University College London, 2001) last modified: 1 December 2001; accessed: 15 March 2002 2002, location:  
**<http://www.ucl.ac.uk/sts/>**
- Stefani, Lorraine and Carroll, Jude, *A Briefing on Plagiarism* (York: Learning and Teaching Support Network, 2001), 12 pp.
- Stoss, Fred, “Designing Effective Poster Presentations”, (Science and Engineering Library, University of Buffalo Libraries, 2000) last modified: 27 January 2002; accessed: 15 March 2002, location:  
**<http://ublib.buffalo.edu/libraries/units/sel/bio/posters.html>**
- Sutcliffe, Mark, “Using Role-play in Teaching Economics”, (Economics LTSN, 2000) last modified: 2000; accessed: 10 April 2002, location:  
**<http://www.economics.ltsn.ac.uk/advice/roleplay.htm>**
- Thorley, Lin and Gregory, Roy (eds), *Using Group-Based Learning in Higher Education* (London: Kogan Page, 1994), 194 pp.
- Tosney, Kathryn, “How to Create a Poster that Graphically Communicates Your Message”, (Department of Biology, University of Michigan, 2001) last modified: March 2001; accessed: 23 February 2002, location:  
**<http://www.biology.lsa.umich.edu/research/labs/ktosney/file/PostersHome.html>**
- Tucker-Griffith, Gail S., “An Adaptation of *Microbe Hunters*”, (Access Excellence, n.d.) last modified: n.d.; accessed: 10 April 2002, location:  
**[http://www.accessexcellence.org/AE/AEC/AEF/1994/tucker-griffith\\_microbe.html](http://www.accessexcellence.org/AE/AEC/AEF/1994/tucker-griffith_microbe.html)**
- Turk, Christopher, *Effective Speaking: Communicating in Speech* (London: E & FN Spon, 1985), 275 pp.
- UCL, “Key Skills”, (University College London, 1999–2000) last modified: 2000; accessed: 10 April 2002, location: **[http://www.ucl.ac.uk/key\\_skills/](http://www.ucl.ac.uk/key_skills/)**
- Van Ments, Morry, *The Effective Use of Role Play, 2nd edition* (London: Kogan Page, 1989), 186 pp.
- Vincent, Andrew and Shepherd, John, “Experiences in Teaching Middle East Politics via Internet-based Role-Play Simulations”, *Journal of Interactive Media in Education*, 98, 1998, 1–35.

- Walker, Melanie and Warhurst, Chris, ““In Most Classes You Sit Around Very Quietly at a Table and Get Lectured at...”: Debates, Assessment and Student Learning”, *Teaching in Higher Education*, 5, 2000, 33–49.
- Williams, Robin, *The Non-designer’s Design Book* (Berkeley, CA: Peach Pit Press, 1994), 144 pp.
- Wood, Millett, *The Art of Speaking* (Newton Abbot: David and Charles, 1971), 179 pp.