A guide to selecting appropriate assessment methods

Assessment methods are not selected in isolation – they are intimately connected with the learning outcomes set for the unit, the graduate attributes we are aiming to develop in students, and the pedagogical approaches we use in our teaching.

This guide provides a window into the enormous variety of commonly employed assessment methods in universities today relevant to the desired learning outcome. The structure of this guide is shown in the table below: for each learning outcome area, common assessment methods are stated. Each outcome area and associated methods are then explained in more detail.

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>Common assessment methods</th>
<th>Page no</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinking critically and making judgements</td>
<td>Essays, case study reports, journals and blogs, debates, wikis</td>
<td>1</td>
</tr>
<tr>
<td>Solving problems and planning</td>
<td>Scenarios, role-play and simulations, case studies, projects</td>
<td>4</td>
</tr>
<tr>
<td>Demonstrating procedures and techniques</td>
<td>Demonstrations, role-plays, clinical assessment</td>
<td>5</td>
</tr>
<tr>
<td>Managing and developing oneself</td>
<td>Journals, e-portfolios, learning contracts, ethical dilemmas</td>
<td>6</td>
</tr>
<tr>
<td>Accessing and managing information</td>
<td>Annotated bibliographies, research proposals, concept mapping</td>
<td>8</td>
</tr>
<tr>
<td>Demonstrating knowledge and understanding</td>
<td>Written examinations and online quizzes, oral exams or vivas, essays, concept maps, reports, posters</td>
<td>9</td>
</tr>
<tr>
<td>Designing, creating, performing</td>
<td>Creative products, portfolios, projects, performances, visioning and brainstorming, prototypes</td>
<td>11</td>
</tr>
<tr>
<td>Communicating</td>
<td>Presentations, discussion, group work debates, role-play, e-portfolios</td>
<td>12</td>
</tr>
</tbody>
</table>

(Adapted from Nightingale et al., 1996; and Morgan et al., 2004)

Thinking critically and making judgements

The ability of students to think critically and to arrive at sound judgements is a key outcome of any university education. Critical thinking can be defined as purposeful thinking, in which the thinker systematically applies criteria and standards to the thinking, such as relevance, depth, accuracy, and sufficiency. The thinker also takes into account issues such as point of view, context and assumptions. Importantly, the thinker can evaluate the strengths and weaknesses of their own thinking, and that of others.

Most disciplines in higher education have their own particular ways of expressing critical thinking (e.g. critical thinking in the sciences is quite different from the humanities), but the common challenge for teachers is to move students from a dependence upon the thinking and judgements of others to arriving at their own valid judgements on the basis of their own disciplined thought.

Strategies for teachers include:

- explaining to students how critical thinking is evidenced in their own discipline and the various forms and processes it takes
- actively addressing many students’ inclination to adopt surface learning approaches and building students’ confidence and skills in critical thinking
• helping students to distinguish between disciplined critical thinking and subjective opinions
• offering as much formative development and modelling to students in preparation for tasks that assess critical thinking
• finding ways to foster a culture of curiosity and rigorous thinking in their classes.

**Essays**

Essays are traditional and useful ways of developing and assessing critical thinking. The essay generally requires students to:

• analyse and evaluate existing arguments relevant to the topic
• make informed judgements which shows students have weighed the evidence and made a reasoned conclusion
• develop a structured and sustained account of their reasoning, based upon their research and reading, using the essay form.

Essays also help develop and showcase students’ written communication skills, and also demonstrate the depth of knowledge and understanding of a topic. They also showcase students’ ability to access and manage information. Typically essays take the form of:

• discuss a quotation
• write an essay on a given topic
• compare, contrast, explain a topic
• assess, analyse or evaluate a topic
• choose from the following topics
• students develop their own topic in consultation with lecturer.

**Reports**

Reports tend to emphasise the ordered presentation of information in an applied or practical setting (e.g. an environmental scientist’s report on the biodiversity of a region, a nurse’s report on the status of a patient, etc.). The purpose of a report is to provide factual information, an analysis of a situation, and, sometimes, recommendations for action.

Reports generally require the student to:

• observe, investigate, and research secondary sources about a situation, a given case, a problem or topic
• make judgements about which evidence/data is relevant
• present dispassionately relevant facts and arguments
• make conclusions/recommendations based on data
• use appropriate report conventions, format and language.

Reports demonstrate students’ applied understanding of a topic, and showcase their critical thinking and written communication skills.

**Journals and blogs**

Logs, diaries, journals and online blogs may be used as tools to develop students’ reflective thinking skills. In contrast to more formal methods such as essays, journals or online blogs are effective in capturing more spontaneous ideas and free-form responses to new ideas. Journals and blogs are valuable forms of assessment as they provide insight into the depth of students’ learning and development over a session.

Journals or blogs might be used as assessment tasks to accompany practicums or other experiential learning encounters, or generally to help students organise their thoughts, reactions and feelings about new subject areas.

Journals and blogs generally require the student to:

• engage with significant or problematic issues in their learning
• understand their own personal responses
• seek out and evaluate other viewpoints
• devise responses to issues and problems in an appropriate and professional manner.
Debates
Debates, which may be facilitated either in the classroom or the online environment, are excellent means of developing and assessing students’ communication skills, teamwork, and critical thinking. Debates usually focus upon contested areas of the curriculum, where students are encouraged to engage with and understand both sides of a proposition.

Debates require students to:
1. work collaboratively to analyse a contested issue from all perspectives
2. plan a division of labour and allocate roles
3. research and develop arguments for a designated position
4. deliver persuasive arguments and persuasive critique of opposing positions.

Wikis
Wikis are assessment tasks that foster collaborative construction of knowledge by students. Wikis offer flexible online spaces where students can collaborate on projects, respond to set readings, and contribute resources and ideas to a common purpose. Specifically you may:

• create a content repository that is contributed by students
• seek student responses to a particular stimulus
• showcase student-generated resources in multimedia formats
• generate ongoing learning resources such as glossaries, powerpoint guides, maps, podcasts, artworks, etc.

Wikis call upon students to research topics, think critically and reflectively, and also to work collaboratively for a shared goal or purpose. Because of their flexible format, they also offer excellent latitude for student creativity and self-directed learning.

Solving problems and developing plans
Problem solving is an everyday professional activity and it is important to develop students’ abilities in a sequenced way over the course of a program. Problem solving may take different forms in each discipline, but mostly share a familiar sequence of events:

• diagnosing the nature and extent of problem
• researching knowledge and concepts underpinning the problem
• generating and testing ideas for workable solutions
• planning and justifying an appropriate course of action
• conducting and evaluating the planned solution
• reflecting on the efficacy of the problem-solving strategy and what has been learned.

To be valuable learning experiences, problems should be ‘ill-structured’, that is, authentic, multifaceted problems common to the everyday working world, rather than artificial problems with simple or tidy solutions. Problem solving assessments offer excellent opportunities for group work, particularly in relation to brainstorming and generating potential solutions.

Strategies for teachers in preparing students’ problem solving skills include:

• articulating good problem solving methods commonly used in the discipline
• providing opportunities for students to practise the series of micro-skills in an incremental way over a teaching session with feedback
• prompting students to reflect upon their developing expertise and how these skills are transferable to other contexts.
Assessment

Scenarios
Scenarios present students with opportunities to sort through detailed, lifelike data and complex circumstances to:

- identify core issues and problems
- research underpinning issues and concepts, and
- argue a case for potential solutions or courses of action. If appropriate, it may also include (4) conducting a course of action
- evaluating the results of the actions, and
- reflecting on outcomes and efficacy of the problem solving process.

Scenarios may be singular (one static case) or an unfolding series of events over semester (two or three iterations). In the latter case, the focus for students is adapting to changing events and dealing with new data or complications to the existing problem. Scenarios offer excellent opportunity for student collaboration in small teams.

Role-plays and simulations
Role-plays and simulations provide opportunities for the analysis of complex problems, with students adopting roles in the problem or conflict. Role-plays and simulations may be undertaken in the classroom, over the Web, or using computer-based simulations.

A typical role-play requires that students work in small groups to research their allocated role (for example, four students together develop one role which could be an individual, a government agency, a lobby group, a client, etc.). Students research the perspectives and assumptions of their role and prepare themselves for the ensuing interactions. A scenario is introduced that requires them to respond 'in role' through a series of escalating events. Use of information and communications technology such as discussion forums and chat rooms allows the process to occur over an extended period. A concluding debrief session is usually essential to analyse and reflect on outcomes.

Role-plays and simulations give students a deeper understanding of the variety of perspectives that are often brought to conflicts in professional life, and how these might be competently resolved. Role-plays may also be used to enable students to demonstrate procedures and techniques and the underpinning rationale.

Projects
Projects are a broad term for a variety of self-directed, applied problem solving activity. Mostly projects have two assessment points: project proposal and project submission. The proposal stage requires students to:

- identify a relevant problem
- provide a rationale and background information
- plan a series of activities with supporting resources that addresses the problem, and
- outline intended outcomes at the conclusion of the project. The submission stage is the coherent presentation of project findings or outcomes, and may also include a reflection on learning.

Projects combine important skills of problem solving with self-directed learning, in which students are responsible for the planning and conduct of a substantial piece of work. Usually these significant projects are suitable for students in final or upper years of study.

Case studies
Rich case studies provide opportunities for students to analyse complex data, discern issues and problems, apply relevant theory to interpret facts, evaluate possible courses of action, make recommendations, and so forth. Case studies often have multiple strands of data, using a mix of media (statistics, recordings, logs, transcripts, video, etc.) which are as lifelike and authentic as possible. They often contain complex issues that students must order and prioritise before constructing an argument for a particular resolution or plan to address the problem. Group work and debate are further elements that can be added to the process.
Demonstrating procedures and techniques

Assessing procedures and techniques is usually requiring skills to be performed to a predetermined level of competence (e.g. taking blood pressure, developing a spread sheet, playing an instrument). Skills are rarely assessed in isolation from the underpinning theory and context, and are commonly assessed in tandem.

Issues for assessors to consider include:

- **Devising and communicating a clear picture of what’s being assessed**
  Students need a clear understanding of what’s being assessed and the level of performance required. Often skills sit on a ‘novice to expert’ continuum. We need to articulate the level of skill sought (beginner? advanced?) and what constitutes an acceptable level of competence at this point in their study.

- **Integrating skills with underpinning knowledge**
  Performing skills, without understanding the underlying rationale and principles, is of little value. Assessment tasks should include short written or oral explanations of underpinning knowledge.

- **Creating authentic conditions**
  Performance of skills should occur under the most lifelike conditions possible, to ensure they have maximum transferability to real world situations.

- **Graded or ungraded?**
  Are there various levels of acceptable performance of the skills? Or only one acceptable level that is deemed ‘competent’, or ‘safe’? If the latter, there may be little point in a graded assessment task – rather it should be ungraded with an acceptable performance designated as ‘satisfied requirements’.

- **Opportunities for practice**
  Competence in a skill is acquired by practice. Are there sufficient formative opportunities for students to rehearse and develop skills with feedback? If students fail, can they continue to re-attempt until competence is achieved?

**Demonstrations**

Observation of real or simulated professional practice is a common method of assessing students’ skills with procedures and techniques. Spaces across the university are commonly transformed into de facto surgical wards, recording studios, courtrooms, consulting rooms, and so forth. Students physically demonstrate a suite of rehearsed skills and may often be required to explain what they’re doing and why as they perform each skill. Students may also be asked to demonstrate proficiency with computer applications such as mapping tools or Excel spreadsheets. Criteria and standards are detailed and discussed in advance of assessment. Increasingly we also find virtual spaces that are designed to enable practice of skills that can be demonstrated by computer applications, simulations and scenarios. Field trips and professional placements are also employed to teach and assess skills.

**Clinical assessment**

Clinical assessment is often designed to assess students’ skills in designated clinical procedures, and also it may include students’ developing skills in clinical reasoning. Simulated clinical assessment is particularly useful in situations where actual clinical placement is too premature for the novice student. Students commonly work with a volunteer to demonstrate skills such as history taking, physical assessment, designated procedures, operation of equipment, client communication and education, and so forth. The assessor may ask probing questions during or after the performance that test students’ understanding of issues. Students are commonly assessed using rubrics that specify standards of performance for each skill or task.

**Managing and developing oneself**

By the time students graduate from any undergraduate program, they should have been provided the opportunity to develop a suite of personal attributes including:

- **Self-directing and lifelong learning abilities** – the academic skills, curiosity and rigorous thinking that enables students to continue to learn and develop throughout their lives and professional careers

- **Ethical practice and integrity** – the ability to act within an ethical framework of values consonant with their professional communities and broader society

- **Reflective abilities** – forms of learning by ‘doing and reflecting’ that enable professionals to move beyond formulaic behaviour to intelligent practice that incorporates change, renewal and innovation.

- **Ability to work collaboratively** – the emotional intelligence required to work within collaborative enterprises where the quality of output is dependent upon cooperative processes.
These are complex abilities to teach and assess as they involve attitudes and dispositions that are not precisely measurable, and may vary widely according to individuals and disciplines. Yet employer surveys consistently reinforce the message that these attributes are the most sought after qualities of university graduates in any field. We need to explicitly develop and assess these abilities incrementally throughout our programs alongside bodies of knowledge and skills.

Journals
Reflective journals are useful as a means of encouraging purposeful reflective activity throughout a semester. They may accompany a practicum or other experiential learning encounter, or as a vehicle for students to make sense of new subject areas. Students are commonly encouraged to examine their own personal responses to issues or actions, to seek out and evaluate other viewpoints, and generally to ‘make sense’ of their learning. They provide assessors with evidence of the depth of student engagement with complex issues or experiences.

Journal assessment tasks should provide guidance to students about:

• the purposes of the journal
• criteria for judgements of quality
• how personal and/or analytical it should be
• how comprehensive and detailed in terms of coverage of issues
• its length, form and language conventions
• how it will be read and responded to by the marker
• what opportunities are available for formative feedback on progress.

Portfolios
Portfolios (or their digital equivalent, an e-portfolio) are collections of resources showing evidence of activities that combine to portray:

• applied knowledge, understanding and skills of the discipline
• professional products or outputs
• synthesis of learning across multiple subject areas
• espoused values, attributes and capabilities.

Portfolios may span a particular subject, or a whole program, and are commonly encouraged in students’ final year when student outputs tend to be more holistic and applied in nature. Portfolio artifacts may include items as diverse as learning plans, goals, records of events, extracts from written work, creative outputs, reflections on outcomes – indeed, anything that meaningfully captures student learning and progression.

Assessment usually focuses not on the products themselves (which have often already been the subject of assessment) but on efforts by students to present and synthesise the various components of the portfolio into a coherent portrayal of learning and achievement.

Learning contracts
Learning contracts are a key tool in promoting skill and confidence with self-directed learning. They provide students with the opportunity to devise and undertake a study of a particular topic or area of practice with the broad guidance of an academic staff member. They are ‘contracts’ in the sense that the proposed outcomes and processes are negotiated at the beginning to ensure that project outcomes are achievable, appropriate and well considered. Learning contract proposals will often include:

• the title of the proposed project (describes the learning product)
• rationale for the project (describes why this is suitable, of interest, personally relevant and challenging)
• a description of the project (describes the action plan, major steps involved, time frames, etc)
• expected learning outcomes (describes proposed measures of achievement)
• methods to be used (details of strategies to be adopted in reaching the desired goals)
• time/task allocation (how available time will be divided between tasks)
• criteria for assessment (what the assessor should have regard for when assessing the submitted work).

Learning contracts provide students with a high degree of agency over their own learning. Although they provide opportunities for students to manage a learning project, dialogue with academic supervisors is important during the process to help clarify problems and stay on track.

**Ethical dilemmas**

Most professions have codes of conduct and ethical standards of professional behaviour. However, these broad guiding principles may offer only minimal support in dealing with ethical dilemmas of professional life. Students need to be prepared with an ethical thinking and problem-solving framework that enables them to:

• analyse the ethical issue or conflict of interest
• make judgements relative to an ethical framework
• plan a defensible course of action or resolution
• advocate where appropriate on behalf of others

Ethical dilemmas and vignettes are provided as case studies to students. Assessment could be in the form of debates, discussions or written essays. Students would be expected to research the issue, evaluate it from a variety of viewpoints or stakeholder positions, use an ethical framework to make judgements about the issue and offer an appropriate course of action or outcome.

**Accessing and managing information**

The ability to access and manage information is the basic building block of information and academic literacy. It comprises of three key strands:

• an awareness of how information is produced and organised in the contemporary world, including understanding of intellectual property and copyright issues
• the ability to use the ‘tools of the trade’ – eg using library databases, retrieving and ordering material from a range of sources, using citation and referencing systems
• the ability to evaluate information for its content, relevance, validity and usefulness for an academic purpose.

Assessment tasks that target the development of information literacy usually begin early in programs and focus on particular building blocks of research relevant to the discipline. Common tasks include annotated bibliographies or ‘research a topic’ style tasks that require students to reveal the workings of their search strategies on a designated subject and their efforts at evaluating material for relevance and validity. It is unrealistic for students to undertake more substantive assessment work until these foundation skills are acquired. Tasks of this kind are often strengthened by collaboration and co-teaching with librarians.

**Annotated bibliographies**

Annotated bibliographies are often employed in first year subjects to focus students on the skill and judgement involved in accessing and evaluating sources of information, along with the provision of a short, succinct overview of the source. Students are usually expected to demonstrate fluency with a variety of sources including websites, online databases, books and contemporary media. As part of students’ evaluation of these items, they should be able to comment on the validity and reliability of the source and its relevance to the topic.

**Research proposals**

Research proposals are a more advanced means of assessing students’ information literacy, and can often be found in final year subjects. Key elements of the research proposal are requirements to identify a research question, present a literature review supporting the need for a study and identifying relevant gaps in the literature. This requires an advanced knowledge of disciplinary information sources, retrieval skills and evaluation of sources.

This assessment method may further require students to identify appropriate methodology and research methods to be employed in the research, along with time frames, budgets and other requirements of an authentic research proposal to a national funding agency.
Assessment

Concept mapping

Concept mapping is a process of representing knowledge in visual terms by drawing networks of concepts and their relationships. Concept mapping is particularly useful when there is a very large amount of relevant information on a subject or problem and the main challenge for students is sorting what is conceptually relevant.

A typical concept mapping exercise revolves around a scenario that can only be addressed by effective information management. Students undertake research and display the outcomes of their searching using a concept map to illustrate the various aspects of the issue and their interrelationships. The process aims to clarify thinking about relationships, hierarchies and processes relevant to a topic.

Demonstrating knowledge and understanding

Every discipline has a body of knowledge at its core. Students are required to build their knowledge over a degree program, commencing with foundational concepts. This does not mean memorising fragmentary pieces of information, but building on an existing knowledge base, actively making new connections, and applying it to practical situations and problems.

Key issues about knowledge and understanding include:

- knowledge or wisdom do not emerge from students being loaded up with a lot of facts. Wisdom grows from students’ abilities to reflect, understand, think about and apply facts. As knowledge in a field evolves, facts change, and so too must students be able to update and understand the significance of these changes
- memorisation of facts, without understanding, is a poor strategy for later recall. However some memorisation of basic material, such as formulas, definitions, schemas can be useful as a basic step towards more sophisticated understanding
- examinations that emphasise knowledge recall are poor indicators of understanding. Even students who are highly successful in such examinations have been shown to often have poor recall or limited understanding or capacity to apply it.

Implications for teaching and assessment include: showing how information and facts are interconnected with the curriculum as a whole; encourage activities that help students to make connections and apply information in relevant ways; don’t overload curriculum with factual material that requires students to adopt a surface approach or ‘swotting facts’ for exams; use plenty of formative assessment, such as self-assessment quizzes, to help students embed knowledge.

Examinations and online quizzes

Examinations and online quizzes are a common and efficient method for assessing knowledge and understanding. They commonly take the form of multiple choice, true/false, matching or short answer questions. Exams may be undertaken online or in invigilated examination conditions, according to issues such as the need for authentication. Well-designed exams can be highly reliable and valid, but should always be peer reviewed before release to ensure quality. Examinations and quizzes of this kind can be used for:

- diagnosing students level of knowledge and understanding at appropriate stages of their learning
- self and peer assessment exercises
- formative assessment to allow students to diagnose and reflect upon their learning
- summative assessment for grading purposes.

Exams are rarely helpful to learning if they are simply testing recall of facts (unless they are simply formative exercises for students’ private study). Well-designed exams require students to demonstrate understanding and application of knowledge in an appropriate context.

Oral exams or vivas

Oral exams or vivas are a more demanding way of assessing students’ knowledge and understanding as they provide the assessor with the means to probe and pursue in greater depth a student’s knowledge and understanding of an issue. They usually constitute a 10 to 30 minute individual session between teacher and student in which randomised questions from an item bank are posed to the student. A dialogue may ensue where the teacher continues to probe for depth of understanding. It is a demanding task for students as they are required to ‘think on their feet’ and it is not particularly suitable for inexperienced students or large cohorts.
Yet it is a highly authentic task required of many professionals in daily practice. Students are assessed on their demonstrated knowledge of the topic and the clarity and depth of their understanding. Students should be provided with the opportunity to practice these forms of assessment and to develop confidence in their oral skills before summative assessment.

**Concept mapping**
Concept mapping is a process of representing knowledge in visual terms by drawing networks of concepts or ideas. They are an excellent alternative method of assessing students knowledge and understanding as they often perform the function of:

- clarifying thinking about relevant concepts and their relationships
- developing hierarchies of significance or relevance of concepts
- diagnosing gaps in students’ understanding about subject areas
- formulating problems with all interrelated issues
- organising and planning effective processes for workplace issues
- representing and communicating complex ideas and relationships.

Concept mapping software can readily be downloaded and used for this activity. Assessment criteria are focused upon students’ ability to coherently represent structural relationships of concepts.

**Posters**
Posters are another alternative way of assessing students’ knowledge and understanding. Posters allow students to encapsulate their ideas and express knowledge and understanding in creative or succinct ways. Posters may be done individually or in teams, in topics of choice, or from a given range of relevant topics. Like concept mapping, posters are an excellent way of clarifying thinking about relevant concepts and their relationships; representing and communicating complex ideas, processes and relationships; and helping students to diagnose gaps in their own understanding of a topic. A poster session is an assessment event where all posters are displayed, discussed and assessed. Criteria usually include the depth of knowledge and understanding, and its visual representation in a succinct way that communicates with an audience.

**Designing, creating, performing**
These learning outcomes relate to the development in students of innovation, imagination and creativity. While these learning outcomes are prominent in the creative arts, they are also relevant to any fields of study in higher education where students are required to think laterally, innovate, solve problems creatively, and so forth. In any discipline, there needs to be a combination of theoretical understanding, technical competence, critical analysis, problem solving and innovation for significant creativity to emerge. In addition to the creative arts, these outcomes may commonly be found across the academic spectrum in disciplines such as business, entrepreneurship, marketing, architecture, design, IT and multimedia, and so forth.

Assessment of this learning outcome is usually enabled through authentic projects that come to fruition with a creative product/performance/work. Assessment will usually balance evidence of creative outcomes, with evidence of good process such as initial research, investigation, evidence of critical and creative thinking, risk taking, etc. Hence both process and product will often be assessed. Process can often be assessed by the use of portfolios or reflective journals that document and reflect on the creative process, along with the intentions of the piece and the intellectual engagement surrounding the work.

**Performances**
Performance is a branch of the arts that includes music, dance, drama and other contemporary sound and multimedia activities. Students are judged on technique, the level of mastery of their field, how they work to a public audience, communication and creative expression. Assessment will commonly take account of both the quality of creative process, as documented in a journal or portfolio, as well as the quality of the finished performance. In significant performances a panel of assessors may be assembled to make judgements, and peer- and self-assessment are also common employed assessment strategies.

**Creative products**
The production of an artefact is one of the most commonly used methods to assess design and creativity. These are usually whole-of-semester tasks, or even longer, which contain various submission points of work
Assessment in progress for formative feedback. A final presentation is often accompanied by a written or oral piece that might be both analytic and reflective in nature. The analytical work explores theoretical considerations and how they have been applied in practice. A reflective piece may include elements of self-assessment and reflections on the quality of the creative process and what has been learned.

**Visioning and brainstorming**

Visioning and brainstorming are collaborative creative processes that focus on clarifying problems and generating ideas. The assessment outputs are a summation of a range of ideas, visions, or potential solutions to issues or problems of human life relevant to the discipline. The emphasis is not on a finished product or solution, but rather, to focus on the development of skills in creative and divergent thinking. It also seeks to draw upon the diversity of the group to test and challenge given assumptions and generate new ideas or ways of thinking about an issue. In future studies courses, for example, students are taught specific methods such as trend analysis and visioning which become key tools of the trade. Student work is assessed on the demonstration of creative thinking and original speculation, the production of a number of imaginative options, evidence of exploration of relevant theories.

**Prototypes**

Prototype design can be assessed as part of a larger project that requires a design phase, or it may be assessed as an outcome in its own right. Students need to show that they are able to devise a workable plan that meets a set of specifications and client/audience needs. In such tasks there are usually elements of problem solving and planning, lateral and divergent thinking, imaginative conceptualisation, along with the application of particular skills and software that are tools of the trade. The design may emphasise the resolution of technical problems, or aesthetic considerations, or any combination of the both, depending on context. Group work is an added possibility in a studio setting. Formative assessment, and show-and-tell sessions of work-in-progress are usually essential to these kinds of task.

**Communicating**

Effective communication in a range of genres and media is a central learning outcome of any university education. Most assessment tasks that students undertake are, to some degree, exercises in communication – whether in written, oral, visual or digital mode. However assessment tasks that are designed to foster communication skills will tend to privilege the communication element of the task over other issues, and will enable students to practice and gain feedback on their developing expertise with the mode of communication. This includes the disciplinary conventions of communication, modes of structure and argument, cultural awareness, presentation styles, citation, and grammatical considerations.

It is an essential responsibility of teachers to provide students with opportunities to learn disciplinary communication skills and conventions with rehearsal and practice in low-risk, low-stakes tasks early in a degree program. The development of communication skills is well suited to a range of formative assessment methods including self, peer, or group marking, freeing teachers from the weight of constant marking of summative items. Group work exercises are also excellent in developing students’ oral communication and negotiation skills in collaborative environments.

**Oral presentations**

Most professionals are required to present information effectively and argue persuasively on a given topic. These are the two essential skills that we seek to foster in students through oral presentations. Opportunities for oral presentation should be spread across a degree program with staged degrees of difficulty. We should ensure that early efforts are not too anxiety provoking, and are well supported in relation to rehearsal and feedback.

Group presentations, in which the class is divided into groups of three who collaborate on the presentation, are an effective early strategy. Students need to be taught about what constitutes a good presentation and effective use of presentation software. Criteria for marking usually include quality of research and preparation; timing and pacing of the presentation; effective use of presentation software; and overall persuasiveness and effectiveness of presentation. Oral presentations can be undertaken in class, or online using synchronous conferencing software such as Blackboard Collaborate.
**Discussion**

The ability to constructively present and discuss ideas is a key professional attribute that we seek to actively foster in students. Ideally this occurs naturally in most learning sessions, however, it may be important on some occasions to actively assess this ability and provide feedback to students on their progress. Such assessment may occur in class (such as the tutorial) or online through discussion forums or synchronous conferencing software such as Blackboard Collaborate.

When students are being assessed on their participation and discussion abilities, it is important to have very clear and assessable criteria. It is not unusual for vocal students to dominate discussion, so it should be very clear that assessment is based on quality of input not quantity. Students should be assessed on their collegiality – that is, their ability to acknowledge and respond constructively to others’ comments and viewpoints, rather than simply asserting their own views. Preparation for the discussion, clarity and brevity of comment, and an ability to constructively advance the discussion, are also important criteria for assessment.

**Group work**

Group work can be a very useful way of developing students’ communication and collaboration skills. Groups often require students to display important communication skills such as listening, negotiating roles, making group decisions, managing conflict, dealing with cultural diversity, and so forth. However assessing students communication in groups is not always easy as the assessor is not privy to the actual communications, so it is normally assessed by means of an individual reflection by each group participant (in addition to the submission of the group project or product). This requires students to reflect on any critical incidents in the group communications and also more generally on their strengths and weaknesses as a group communicator and what they have learned from the experience.

**References**
