'But how do we assess it?' An analysis of assessment strategies for learning through participation (LTP)

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Assessment is a critical endeavour with implications for students, universities, industry and the wider community. The measurement of student learning, however, presents many challenges, particularly in the context of cooperative education, work-integrated learning, work-based learning, service learning and other models of learning through participation (LTP). This paper offers a new resource, the *Strategies Analysis Tool*, designed to assist practitioners make informed choices about the strategies they use to assess student achievement in LTP. The resource is based on an extensive review of the relevant literature and addresses six key aspects of learning in LTP. Strategies for assessing student learning may include particular approaches or specific tools and instruments. These strategies have been examined to establish their strengths for the designated purpose and potential problems or considerations that practitioners may need to take into account before or while using them. The resource features six tables with each aspect of learning and its associated assessment strategies presented separately. A discussion highlights some of the main issues concerning assessment in this arena: the use of portfolios; the role of the host supervisor; workload; reflection; and the challenges associated with assessing the less well defined aspects of learning. Finding appropriate assessment strategies is a significant factor in ensuring the sustainability of experience-based education in universities. *(Asia-Pacific Journal of Cooperative Education, 2010, 11(3), 67-91)*

Key words: assessment, cooperative education, experience-based learning, learning through participation, work-integrated learning, Australia.

INTRODUCTION

Assessment of student learning is a complicated but important aspect of education. Universities and academics have spent considerable time refining assessment strategies for all kinds of learning, but still grapple with the problem that "assessment of complex skills and knowledge…. remain[s] a complex task" (Baume, 2001, p.12). Many authors contend that experience-based learning presents additional challenges (Zegwaard, Coll & Hodges, 2003; Hodges, Smith & Jones, 2004; Hodges, 2008) not only because of the complexity and holistic nature of the learning, but also because of the "situatedness of the achievement" (Woolf & Yorke, 2010, p.15).

Finding appropriate assessment strategies is a significant factor in ensuring the sustainability of experience-based education in universities. Davidge-Johnston (2007) observes, however, that using traditional assessment models can be problematic because it is "difficult to validly measure learning in one learning model with tools designed for a completely different model" (p. 140). Many traditional methods do not address or adequately measure the new kinds of learning that this type of education seeks to engender, such as the so-called soft skills, graduate capabilities/attributes or personal development and transformation. These aspects of learning do not fit neatly into "proscribed and specific learning outcomes" (Hodges, 2008, p.11).

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Recent attempts by some practitioners to incorporate *authentic assessment* into classroom teaching have started to bridge the divide between traditional classroom-based assessment and that needed for the new kinds of learning engendered in experience-based learning. Authentic assessment is defined by Mueller (2010) as "a form of assessment in which students are asked to perform real-world tasks that demonstrate meaningful application of essential knowledge and skills." But neither authentic assessment approaches, nor traditional methods, adequately take into account the great variability and unique characteristics of each individual student placement and experience, or the unanticipated learning that will occur through this pedagogy.

There are also tensions around finding assessment strategies that are reliable, produce consistent and objective results, that also measure what is truly valued in experience-based education. Hodges et al. (2004) argue "the multiple variables that affect both the design and subsequent implementation of assessment practices, particularly in cooperative education, will inhibit attempts to produce absolute instrument validity and assessor impartiality" (p. 50). It is not, however, an impossible task and may require inventive thinking, which presents opportunities "that are not 'boxed in' by traditional assessment methods" (Woolf & Yorke, 2010, p. 35).

There are many different models and curriculum design approaches for experience-based learning. Patrick et al. (2009) found 48 different terms used in Australia alone. In our work we use the term 'learning through participation' (LTP) to cover the array of variations, but for the purpose of this paper, it will refer to initiatives that have a component of community engagement, which could occur within the public, private or not-for-profit sectors, are based within the curriculum and for which assessment of student learning is required. LTP thus includes work-integrated learning (WIL), work-based learning (WBL), cooperative education, practicum, project-based learning, service-learning and many other curriculum models and terms.

This paper introduces a new tool to assist practitioners to analyze different strategies used to assess student learning in LTP. The tool is based on an extensive literature review of 60 papers covering the areas of service learning, work-based learning, work-integrated learning, cooperative education, practicum and project-based learning. The review drew on papers that reported research findings as well as practice-based reports and 'how to' guides. A paper describing the main themes and issues around assessment in this context is in preparation.

STRATEGIES ANALYSIS TOOL

Measuring student learning in LTP is not an easy undertaking. One reason for the challenge is that LTP pedagogy supports a wide range of aspects or types of learning (see Figure 1) for which practitioners have to find valid and meaningful methods of assessment.

The *Strategies Analysis Tool* developed by the authors and introduced here (Appendix A) responds to this challenge. This tool addresses six key aspects of learning in LTP identified by the literature (Figure 1) and provides a resource to help practitioners make informed choices about the strategies they use to assess student learning in relation to each aspect. Strategies may include particular approaches or specific tools and instruments.

Six key aspects of learning in LTP

1. **Discipline specific academic skills and theoretical knowledge** – a set of clearly identified micro-skills/knowledge specific to a discipline and seen as required by that particular subject or field of study (Zegwaard et al., 2003).

2. **Professional skills and knowledge (the so-called 'hard skills')** – technical skills and competencies viewed as necessary for immediate, effective and/or safe performance in the workplace such as those found in engineering and the health sciences and which are often subject to external accreditation standards (Coll & Eames, 2004).

3. **Professional skills and knowledge (the so called 'soft skills')** - a broad range of cognitive and behavioural competencies, that help students transition from university to work as well as support effective career management (Watts, 2006). Interpersonal skills and communication skills are commonly cited as learning outcomes (Coll et al., 2002) along with others such as self awareness, opportunity awareness, decision making, networking and negotiation skills (Watts, 2006).

4. **Graduate capabilities (also referred to as attributes and generic skills)** – a broad mix of cognitive capabilities, as well as personal, social and interpersonal dispositions conceived as necessary for graduates in terms of employability, preparing for an uncertain future, life-long learning, promoting change and range of other purposes as identified in the literature (Bosanquet, Winchester-Seeto, & Rowe, 2010). Many of these capabilities overlap with the other aspects of learning, especially the soft skills.

5. **Application of theory to practice** - the hands on application of what has been learnt in the institutional setting in an authentic or real-life situation/ context (Kolb, 1984) to foster deeper learning (Johnson, 2000). This aspect of learning overlaps and encompasses the other aspects of learning identified in this table.

6. **Personal development and transformative learning** – focused on developing independent thinking, critical discourse and using strategies that build on the learner's existing experiences and knowledge to encourage personal growth and transformative learning that may lead to personal and social change (Coll & Eames, 2004). The process of critical reflection and self-evaluation are often utilised in this type of learning and assessment thereof (Van Gyn & White, 2004, p.34).

FIGURE 1:

Six key aspects of learning most commonly supported by LTP pedagogy which practitioners seek to also assess in terms of student learning. There is overlap between some of these aspects.

Through a review of the literature, the most common strategies used in higher education to assess each aspect have been determined. Strategies range from traditional assessment methods such as essays and exams through to increasingly more utilised ones like portfolios and oral-based tools. These assessment strategies have been examined to establish their strengths for the designated purpose and potential problems or considerations that practitioners may need to take into account before or while using them. For ease of use, the

resource has been set out as six tables with each aspect of learning and its associated assessment strategies presented separately (Appendix A). It should be noted the inclusion of a strategy in the resource is not meant to be considered as an endorsement by the authors. Instead, each strategy must be judged in terms of the specific LTP context in which it will be used and whether the resultant measures will address the unit/course intended learning outcomes.

The *Analysis Tool* is intended for use by practitioners who are responsible for designing the assessment package for a unit or course that incorporates LTP. The assessment package is defined by the authors to be the collection of assessment strategies used by LTP practitioners to provide adequate coverage and meaningful measurement of student learning within a specific unit or course. The *Analysis Tool* can be used alone or in conjunction with the *LTP Assessment Design Framework* which is presented in a paper currently in preparation by the authors. Instructions for effective use of the tool can be found in Appendix A.

The *Analysis Tool* has been presented at an International Conference and several workshops where it was shared with practitioners and road-tested against different scenarios. Reactions from the practitioners have been positive, particularly with respect to broadening options, promoting the concept of choosing specific assessment methods to match the learning outcomes, and assisting practitioners to think through the strengths and relevance of different assessment methods.

Good practice principles of assessment relating to matters such as reliability, validity and objective verification of learning apply to LTP assessment in the same way they apply to assessment of non-LTP units/courses (Hodges et al., 2004). However, the nature of LTP means some additional considerations need to be addressed by practitioners:

1. Determine the aspect/s of learning to be assessed (e.g., application of theory to practice and discipline-specific soft skills) and what kind of evidence of learning can be used;

2. Decide what students need to achieve and be clear about what will be measured, taking into account any accreditation or certification requirements;

3. Agree on who is involved in the assessment process and clarify roles in terms of how stakeholders will be involved, whether this be in only some aspects of assessment (i.e., host supervisor involved in formative assessment only) or all of the assessment (i.e., the academic supervisor);

4. Provide support and training for anyone involved in assessment as stakeholders may be unfamiliar with the aspect of learning, situation of learning and/or some of the methods used for assessment;

5. Consider the situation/context of learning which will vary between students, and ensure the assessment package is flexible and realistic enough to account for variations while also being equitable to all students;

6. Allow room in the assessment process for the extensive amount of wider and largely unanticipated learning that occurs in the work/placement environment, which may include the personal learning or other unforeseen/unplanned learning;

7. Understand the cost involved with some methods of assessment in LTP (i.e., portfolios can attract heavy marking loads and cognitive scales may need to be

purchased). Economical methods of assessment should be sought without trading off educational effectiveness for cost efficiencies (Strivens, 2007);

8. Take into account the workload involved, for all stakeholders, with some methods of assessment (i.e., portfolios, journals and some projects) and consider using tasks that measure more than one aspect of learning.

9. Include a variety of assessment tasks along with evidence of student capability from mixed sources within the assessment package to address many of the matters raised in points 5, 6, 7 and 8; and

10. Consider using evidence of student capability from a mix of sources i.e., from the student, workplace supervisor/host and the academic supervisor (McNamara, 2008, p.4).

The list above draws from the following papers, Mackaway, Winchester-Seeto, Coulson, & Harvey, (forthcoming), Woolf and Yorke (2010), McNamara (2008), Strivens (2007), O'Donovan, Price, & Rust, (2004), and Hodges et al. (2004).

DISCUSSION OF ASSESSMENT STRATEGIES

Although there are various combinations and variations, many of the strategies used for assessing student learning in an LTP context fall into a number of distinct types:

- traditional methods such as examinations and tests, academic essays, research reports;

- direct observation of skills or performance by the host/placement supervisor, academic supervisors or an external examiner occurring either in the placement/ experience setting or as a practical test or as a role play (or similar) in a different setting;

- products produced during the placement/ experience such as a report commissioned by the host/ placement supervisor, or a public relations communication campaign, consulting notes, lesson plans, etc.;

- learning products based on the placement/ experience such as a project or placement plan or report;

- student reflections on their experience such as raw reflections (undertaken by the student before, during or after the experience, in a journal or similar) or distilled reflections (typically after the experience, perhaps in a report drawing on their raw reflections);

- learning portfolios in which students incorporate evidence of learning, including some or all of the items listed above;

- oral tools such as vivas, role-plays, debates, moot courts, etc.; and

- cognitive tests or scales for some of the more difficult to measure areas like personal development.

The strategies listed above are not the only options available, but do cover many of the approaches and tools reported in the literature. The suitability of any given strategy is

determined by the unique practical aspects of each LTP context and by the aspects of learning the practitioner wishes to assess.

Nonetheless, even a casual perusal of the *Analysis Tool* (Appendix A) shows that some aspects of learning are more difficult to assess than others. Assessment of discipline-specific skills and knowledge is part of the everyday work of academics and there are many different approaches with which academics, and students are familiar. Established practices are useful for "knowledge of information and its sources; of algorithms and of standard practices [and for] judging the quality of tolerably straightforward procedural knowledge and know-how" (Knight, 2007, p.5).

Many professions have developed sophisticated and effective strategies to assess the so-called hard skills and specific technical competencies. Hodges et al. (2004) suggests there are dangers in concentrating heavily on performance measurement and reliability that "lead assessment designers to focus on more tangible and identifiable technical skills and competencies at the expense of more difficult-to-measure soft generic skills and competencies" (p.53). Other authors warn that assessment of valuable professional skills such as "tacit knowing, intuition and artistry" (Zegwaard et al., 2003) or the "poorly defined but essential elements of the graduate attributes" (Hungerford, Gilbert, Kellett, McLaren, Molan, & Washington-King, 2010, p.199) can be overlooked by such a narrow focus. These skills fall into the list of "wicked competencies" defined by Knight (2007) who also identifies graduate attributes and complex achievements in this group. He further contends that a competency such as creativity or critical thinking "cannot be precisely defined, takes on different shapes in different contexts and is likely to keep on developing" (p.1). These characteristics make assessment of such skills and competencies difficult and may "require a more judgmental approach to assessment, especially where they are context-specific" (Woolf & Yorke, 2010, p.27). Other aspects of learning that are difficult to assess for similar reasons include application of theory to practice, and personal development that feature particularly in service learning.

In response to the complexity of assessing some of these less easily measured aspects of learning, the use of portfolios has become increasingly utilized by practitioners. A portfolio, which may be paper-based or held electronically, can be defined as "a structured collection comprising labeled evidence and critical reflection on that evidence" (Baume, 2001, p.7). There are clearly many benefits for students and the LTP context, and these are enthusiastically outlined by Baume (2001), Hodges et al. (2004) and Zegwaard et al. (2003).

However, the assessment of portfolios is not a simple matter. There are a number of areas of concern when using portfolios, particularly for summative assessment purposes: these include:

- the assessor's ability to determine the veracity of the experience and of the learning (Woolf & Yorke, 2010; Hodges et al., 2004);

- inter-assessor reliability and issues of objectivity (Tomkinson & Freeman, 2007; Hodges et al., 2004; Pitts, Coles, C., & Thomas,1999);

- consistency and comparability of grading, as each portfolio is unique (Tomkinson & Freeman, 2007);

- standardization of grading, where all assessors share a common view of the value of a given mark (Tomkinson & Freeman, 2007);

- generalisability which is related to the validity of the inferences that can be drawn from selective evidence (Hodges et al., 2004);

- workload issues for students and assessors which touches on the issue of staff-student ratios (Baume, 2001; Strivens, 2007);

- prevailing institutional culture related to assessment as learning (Strivens, 2007);

- plagiarism (Baume, 2001); and

- whether students should include everything they have done, including evidence of poor performance, perhaps accompanied by a reflective piece, or only good performance (Woolf & Yorke, 2010).

Baume (2001) argues that "the assessment of a portfolio is inextricably related to its purpose, content and structure" (p.4). The provision of guidelines for the organization of the portfolio, along with clear expectations about its purpose and what should be included, will mitigate some of the difficulties listed above.

Reflection is commonly used in portfolios and other LTP assessment tasks both for learning and as evidence of learning for assessment purposes (e.g., Clarke & Burgess, 2009; Stupans & Owen, 2009; McNamara, 2009; Brodie & Irving, 2007; Kiely, 2005; Ash & Clayton, 2004; Brocklebank & McGill, 1998). There are many issues and challenges related to using reflection for assessment and these are summarised by the authors in a paper currently in preparation. Some of the questions relate to what aspect of reflection to assess, i.e., the raw, in-the-moment reflections such as a reflective journal or diary, or only reflections that are distilled, say at the end of a placement, drawing on the daily journal, or in response to set questions. Some go as far as to suggest reflections are best left unassessed (Stewart & Richardson, 2000). Moon (2004) argues that assessing the initial (or raw) reflections of students is akin to grading their notes for an essay and questions the veracity of this approach. The process and assessment of reflection is clearly very different to other academic practices and careful consideration needs to be given to preparing both students and assessors for this complex process.

For many aspects of learning, direct observation of the skills and competencies is the most obvious approach, especially to see those skills in the complex environment of the placement/workplace. In some professions, this is done by external evaluators and/ or against criteria that are determined by professional or other bodies (Coll & Eames, 2004). In others, an academic will visit the placement or workplace. For both of these approaches, there is the problem that it is impossible to "sample learning exhaustively" and that "assessment will be based on impressions from a small sample" of the student performance (Coll, Taylor, & Grainger, 2002, p.9). This may or may not provide an adequate or accurate representation of the overall student performance. Observation of performance outside the workplace/ placement such as a role-play or simulation provides the opportunity to assess students on the same task and in the same context, which may make comparing student performance more equitable (Toohey, 1999). It might also have some advantages for novice students or where there is risk to other participants e.g. patients, or other ethical considerations.

Another approach is to involve the host or placement supervisor in assessment. This has some obvious advantages, such as the host supervisor being in a better position to see more of the student performance over time; they may have a better understanding of the particular

context of performance and learning; and perhaps have better technical qualifications or more recent "industry" or community experience than an academic (e.g., Woolf & Yorke, 2010). Some host supervisors, however, are reluctant to be involved in assessment for a range of reasons including competing demands on their time or an aversion to provide negative feedback or bad grades to student they have hosted (McNamara, 2008; Costley & Armsby, 2007; Thomas & Goc, 2004).

Peer and self assessment can be incorporated into many of the assessment strategies identified in the *Strategies Analysis Tool* e.g., peers can assess oral presentations, portfolios, reflective blogs, etc. In the context of LTP, student involvement in assessment has particular value in developing independent judgment (Brew, 1999), a capability required for professional practice in many fields as well as being necessary for active participation in workplace activities such as performance appraisals. Developing the capacity to be "an effective assessor of learning" also supports the notion of lifelong learning advanced by Boud and Falchikov (2006, p. 402). Peer assessment and/ or feedback may have advantages in promoting learning, but for this to work well there is a need to develop clear standards and criteria, scaffold the development of student skills in this area and account for the additional time required by academics and students to undertake it (Race, 2001). Like peer assessment, self assessment also offers advantages to learning and may be captured via student reflections (McNamara, 2009). The challenge in LTP is to find ways to validate students' claims of learning, particularly in relation to capability. McNamara (2008, p.401) suggests evidence of student capability should be gathered from a range of sources: the student, the academic supervisor and the host or placement supervisor.

Where LTP models attempt to address some of the more esoteric aspects of learning, such as development of social justice and ethical awareness, or other aspects of personal development and transformative learning, there are particular dilemmas in devising valid and reliable assessment. Some authors advocate the use of cognitive scales and tests that can be used to demonstrate student learning of higher order and critical thinking, such as the Articulated Learning Strategy (Ash & Clayton, 2004). Steinke and Fitch (2007) discuss several different approaches that include both indirect and direct measures of problem-solving skills, critical thinking and so on, that can be applied in service learning, and that can show evidence of linkages between academic, civic and personal categories of learning objectives.

Workload issues related to the development and use of new and different assessment strategies remain a barrier to many assessors of LTP. Woolf and Yorke (2010) promote the idea of "maximising the assessment value for the effort put in," that is finding ways that assessment can be made "economical of effort (for both student and assessor)" (p.5). This might be accomplished by making sure each piece of assessment covers a number of different learning outcomes and that it promotes student learning.

Whilst assessment is a complex and time-consuming operation for any LTP activity, it becomes particularly problematic where the institution must warrant or publicly certify a student as being fit for practice. Such statements potentially carry high risk for all stakeholders, students, employers and the community, not to mention Higher Education institutions themselves. As discussed above, except for some straightforward knowledge and skills, the more complex and arguably more important dispositions and skills are difficult to assess adequately. Ultimately this relies on getting a balance of valid, but also affordable, manageable and practical approaches that will satisfy all parties (Knight & Yorke, 2006).

CONCLUSION

The *Strategies Analysis Tool*, introduced in this paper, was devised to provide practitioners with the means to make informed choices about the assessment strategies they choose, rather than relying only on established and familiar methods. It is based on literature that covers the range of LTP that is usually dispersed under particular brands, such as cooperative education, work integrated learning (WIL), service learning, etc. or within discipline-specific literature, thus allowing for a cross-fertilization of ideas and approaches. Moreover, use of this tool supports a holistic approach to the design of an assessment package, that emphasizes consideration of what we as practitioners actually want students to learn, and then focuses attention on this via the use of formative and summative assessment.

Assessment of student learning is an important issue in Higher Education for both universities and students. The credibility of LTP as a valid and useful learning process depends, at least in part, on the provision of robust assessment practices. There is still some tension between the need to broaden assessment options to fully capture the new aspects of learning that LTP promotes, whilst still being seen to adequately and accurately assess student learning, and this requires further research. This is an not a trivial nor a simple matter, but it is important for our students that we ensure that assessment of student learning is carried out to the satisfaction of universities, students, academics, host supervisors, industry, professional bodies and the wider community.

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APPENDIX A

THE STRATEGIES ANALYSIS TOOL
Strategies commonly used for assessment of learning through participation (LTP)

This resource is designed to help practitioners make informed choices about the strategies they use for assessment of student learning in LTP (includes work-based learning, internships, work-integrated learning, service learning etc.) The kit accompanies the *LTP Assessment Design Framework* (Mackaway et al., 2010).

The resource is set out as six tables, which cover the main types of learning you may wish to assess. These are:

- discipline specific academic skills and theoretical knowledge;

- professional skills and knowledge (hard skills and competencies);

- professional skills and knowledge (the so-called soft skills);

- graduate capabilities (graduate attributes and generic skills);

- application of theory to practice; and

- personal development and transformative learning.

[Note: some of these aspects of learning overlap, e.g. professional skills [soft], graduate capabilities, and personal development]

The strategies that are most commonly used to assess these aspects of learning are listed. The list is not exhaustive and is not a list of recommended strategies, merely those that are often reported in the literature. These strategies are then evaluated for their strengths for the designated purpose and potential problems or considerations that might need to be taken into account. For example, using a project product, for instance an advertising campaign, may be a good way of assessing soft professional skills, but might pose some potential problems as a tool for assessing academic knowledge.

RECOMMENDED PROCEDURE FOR USING THE RESOURCE:

Step 1:

List the aspects of learning you intend to assess (usually this will be more than one).

Step 2:

Find the table/s that address that aspect of learning.

Step 3:

Use the table to determine the assessment strategies that most appropriately fit your circumstances. Some strategies address more than one of the aspect of learning or you might be able to devise an assessment task that picks up the strengths of a particular strategy and modify it to suit your unique circumstances.

Step 4:

Design an assessment package of one or more strategies and tasks that meet the needs of all stakeholders.

TABLE 1:
Strategies commonly used for assessment of discipline specific academic skills and theoretical knowledge gained during placement

Strategies	Strengths	Problems
Traditional Academic Essays	• Direct measure of aspect of learning • Familiar to academics & students • Explores student attainment of knowledge and application from placement in an academic context • Test higher order thinking as students research, synthesize & present arguments	• May not capture context-specific application of skills & knowledge • students may not see direct connection of academic knowledge/skills to experience
Tests and Examinations	• direct measure of this aspect of learning • familiar to academics & students • can test a wide range of academic skills & knowledge	• may not capture the context specific application of skills and knowledge • students may not see direct connection of academic knowledge/skills to experience • may not capture unintended learning • multiple-choice and short answer items may not showcase higher order thinking skills
Oral Presentations	• direct measure of this aspect of learning • alternative to written genre • familiar to academics & students	• not all students perform well in this style of task
Project/ Placement-Based Reports	• obvious & direct connection to real world context • can accommodate many of the variables of the placement/s	• needs to be flexible enough to accommodate the range of different placement experiences • high workload for students & staff • needs to be specifically structured to capture discipline specific academic knowledge and skills • not all projects allow students to attain/display all discipline specific knowledge and skills
Project/ Placement Product (e.g. ad campaign,	• may be only an indirect measure of academic skills and knowledge unless explicitly planned otherwise	• product normally varies significantly from placement to placement • may be difficult to grade consistently

exhibits)		• may be issues of confidentiality & commercial-in-confidence
Research Report Based on Data Collected in Project/ Placement	• direct measure of this aspect of learning • familiar to academics • provides an opportunity for students to demonstrate deeper learning of complex concepts	• may be ethical issues around privacy, confidentiality for placement provider and participants etc.
Case Study of Placement Site, Organisation, etc.	• direct measure of this aspect of learning • provides an opportunity for students to demonstrate deeper learning of complex concepts	• time-consuming for students to produce & academics to assess • may be difficult to assess & provide adequate feedback if academic is unfamiliar with the placement organisation • may be issues of privacy, confidentiality & commercial-in-confidence
Learning Portfolio/ E-Portfolio (e.g. drafts of essays or reports, project products, etc.)	• can capture different types of evidence to demonstrate learning • can capture different formats - visual, sound	• must explicitly require evidence of discipline specific academic skills & knowledge • issues related to who can access materials in portfolio, with implications for photos, commercial-in-confidence, privacy, data collection etc.

TABLE 2:
Strategies commonly used for assessment of professional skill and knowledge (hard skills and competencies)

Strategies	Strengths	Problems
Direct Observation of Skill or Performance by Host Supervisor	• direct measure of this aspect of learning • independent source of evidence of learning • may show progress over time of skill attainment • may facilitate formative assessment • skills/performance can be observed over time or on multiple occasions • skills/performance are contextualised in real world conditions • students may perceive direct connection of skill/s to future career • host supervisor provides expert	• workload implications for host supervisor • success depends on the experience, confidence & competence of the host supervisor • potential conflict in role of host supervisor as mentor & assessor • may have issues with consistency or reliability of assessment/grading • question of whether supervisor awards marks/grades or advises only

	input	
Direct Observation of Skill or Performance by Academic Supervisor (at placement site)	• direct measure of this aspect of learning • may facilitate formative assessment	• may provide only a snapshot view or series of snapshots • academic supervisors may not have specialised knowledge/ or understand limitations of a particular practice context
Direct Observation of Skill or Performance by External Evaluator	• direct measure of this aspect of learning • independent source of evidence of learning • often have an overview of the full range of performance standards	• may provide only a snapshot view or series of snapshots • may incur additional costs & administrative time to organise
Standards Rubric (usually used by all of the above)	• improves reliability/consistency across different assessors & contexts • improves transparency for students • provides guidance to all stakeholders	• may be difficult to write, apply and interpret consistently • raises the question of who determines the standards and on what basis • rubrics may vary greatly in quality
Practical or Competency Tests held off Placement Site	• direct measure of this aspect of learning • conditions & risks are more easily controlled • conditions are the same for all students and assessors • particularly useful for novice students & to encourage scaffolding	• artificial conditions which may not be easily related to the real world • may be time-consuming for students & assessors • narrow focus on specific skills
Host Supervisor Reports	• host supervisor may be better able to observe student performance than academic supervisor, especially over an extended period • provides contextualised information about student progress	• reports may vary in quality • potential for supervisor/student conflict to affect outcome • may be variation in available time, experience, confidence and willingness of host supervisor • host supervisor may not view this as their role • report needs to be carefully structured to minimise time required of host supervisor, but also to capture enough input to be useful
Project/Placem	• direct measure of this aspect of	• workload issues for student

ent Product (e.g. consultation notes, reports, exhibits)	learning • can be an acid test of the application of the skill/s in a real world context • project/placement may be able to be tailored to suit student interests	and academic supervisor • difficulties in identifying student versus host supervisor input into product • degree of student control over final product, particularly if project fails to fully deliver anticipated outcomes
Project Plan	• direct measure of time management & planning skills	• plan needs to be carefully structured to capture enough input to be useful

TABLE 3:
Strategies commonly used for assessment of professional skills and knowledge (soft skills)

Strategies	Strengths	Problems
Direct Observation of Skill or Performance by Host Supervisor	• direct measure of this aspect of learning, which may be difficult to measure in other ways • independent source of evidence of learning • may show progress over time of skill attainment • may facilitate formative assessment • skills/performance can be observed over time or on multiple occasions • skills/performance are contextualised in real world conditions • students may perceive direct connection to future career	• workload implications for host supervisor • success depends on the experience, confidence and competence of the host supervisor • potential conflict in role of host supervisor as mentor and assessor • may have issues with consistency or reliability of assessment/grading as well as consistent interpretation of criteria and standards • question of whether supervisor awards marks/grades or advises only
Direct Observation of Skill or Performance by Academic Supervisor (at placement site)	• direct measure of this aspect of learning • may facilitate formative assessment	• may provide only a snapshot view or series of snapshots • academic supervisors may not understand limitations of a particular practice context
Direct Observation of Skill or Performance by External	• direct measure of this aspect of learning • independent source of evidence of learning • often have an overview of the	• may provide only a "snapshot" view or series of snapshots • may incur additional costs and administrative time to organise

Evaluator	full range of performance standards	
Standards Rubric (usually used by all of the above)	• improves reliability/ consistency across different assessors and contexts • improves transparency for students • provides guidance to all stakeholders	• may be difficult to write, apply and interpret consistently • raises the question of who determines the standards and on what basis • rubrics may vary greatly in quality
Host Supervisor Reports	• host supervisor may be better able to observe student performance than academic supervisor, especially over an extended period • provides contextualised information about student progress	• reports may vary in quality • potential for supervisor/student conflict to affect outcome • may be variation in available time, experience, confidence and willingness of host supervisor • host supervisor may not view this as their role • report needs to be carefully structured to minimise time required of host supervisor, but also to capture enough input to be useful
Project/ Placement Product (e.g. consultation notes, reports, exhibits, etc.)	• direct measure of this aspect of learning • can be an acid test of the application of the skill/s in a real world context • project/placement may be able to be tailored to suit student interests	• workload issues for student and academic supervisor • difficulties in identifying student versus host supervisor input into product • degree of student control over final product, particularly if project fails to fully deliver anticipated outcomes
Project/ Placement-Based Reports	• obvious and direct connection to real world context • can accommodate many of the variables of the placement	• needs to be flexible enough to accommodate the range of different placement experiences • high workload for students and staff • needs to be specifically structured to capture specific professional skills
Project Plan	• direct measure of creative & critical judgement, time management etc. • useful for formative assessment & provision of feedback	• plan needs to be carefully structured to capture enough input to be useful • project may change substantially
Assessment of Reflection as	• direct measure of this aspect of learning	• may require particular skills of assessor

Professional Practice	• this is a professional skill required in some disciplines • may facilitate learning	• providing adequate descriptions of standards may be a challenge
Assessment of Reflections (e.g. journals, online discussions, etc.)	• may provide capture evidence of learning of skills that are difficult to capture via other means • may facilitate learning	• relies on self-reporting as evidence, with no independent validation of learning • students may omit vital information • students may be uncomfortable revealing inadequacies or feelings • students may overstate or underestimate their learning • raw reflections in particular may not accurately report attainment of skills/knowledge • relies on a particular genre of writing; may be unfamiliar to student/assessor
Learning Portfolios /E-Portfolios (containing reflections and/or external evidence)	• can capture a variety of evidence from different sources & in different formats • may be used to provide independent evidence for and of reflections • broadens options for students e.g. what to include and how to present – this may encourage independent learning	• may partly rely on self-reporting • may be issues around privacy, confidentiality, commercial-in-confidence • time-consuming for students to complete & staff to assess • may have challenges for technical capabilities of students & for access to suitable technology e.g. whilst on placement • issues related to who can access materials in portfolio, with implications for photos, privacy, data collection etc.
Cognitive Tests and Scales	• some are direct measure of this aspect of learning • may provide independent validation of learning	• some rely on self-reporting • may be costly to obtain and grade e.g. training may be required • may be difficult to interpret
Oral Tools (e.g. vivas, role-plays, practical tests, moot courts, debates, etc.)	• reduces reliance on written genre • provides controlled conditions for assessment & reduces risk for all participants • may be useful for novices • may capture evidence of learning of skills that are difficult	• decontextualised from the real world

| | to capture via other means | |

NOTE: There is considerable overlap with Tables 3, 4 and 6.

TABLE 4:
Strategies commonly used for assessment of graduate capabilities (=graduate attributes & generic skills)

Strategies	Strengths	Problems
Direct Observation of Capabilities by Host Supervisor	• direct measure which may be difficult to assess in other ways • independent source of evidence of learning • may show progress over time of attainment of capabilities • may facilitate formative assessment • capabilities can be observed over time or on multiple occasions • capabilities are contextualised in real world conditions • students may perceive direct connection to future career	• workload implications for host supervisor • success depends on the experience, confidence & competence of the host supervisor • potential conflict in role of host supervisor as mentor and assessor • may have issues with consistency or reliability of assessment/grading as well as consistent interpretation of criteria and standards • question of whether supervisor awards marks/grades or advises only
Direct Observation of Capabilities by Academic Supervisor	• direct measure of this aspect of learning • may facilitate formative assessment	• may provide only a snapshot view or series of snapshots • academic supervisors may not understand limitations of a particular practice context
Standards Rubric (usually used by those above)	• improves reliability/ consistency across different assessors & contexts • improves transparency for students • provides guidance to all stakeholders	• may be difficult to write, apply & interpret consistently • raises the question of who determines the standards and on what basis • rubrics may vary greatly in quality
Host Supervisor Reports	• host supervisor may be better able to observe student performance than academic supervisor, especially over an extended period • provides contextualised information about student progress	• reports may vary in quality • potential for supervisor/student conflict to affect outcome • may be variation in available time, experience, confidence & willingness of host supervisor • host supervisor may not view this as their role • report needs to be carefully

		structured to minimise time required of host supervisor, but also to capture enough input to be useful • host supervisor may not appreciate the intent or importance of all capabilities
Project Plan	• direct measure of creative and critical judgement, time management etc • useful for formative assessment and provision of feedback	• plan needs to be carefully structured to capture enough input to be useful • project may change substantially
Project-Based Reports (containing reflection and/or external evidence)	• obvious and direct connection to real world context • can accommodate many of the variables of the placement	• needs to be flexible enough to accommodate the range of different placement experiences • high workload for students & staff • needs to be specifically structured to capture graduate capabilities • not all projects allow students to attain/display all graduate capabilities
Project/ Placement Product (e.g. consultation notes, reports, exhibits, etc.)	• may be direct measure of this aspect of learning • can be an "acid test" of the application of the capabilities in a real world context • project/placement may be able to be tailored to suit student interests	• anticipated outcomes workload issues for student and academic supervisor • difficulties in identifying student versus host supervisor input into product • degree of student control over final product, particularly if project fails to fully deliver
Cognitive Tests or Scales	• some are direct measure of this aspect of learning • may provide independent validation of learning	• some rely on self-reporting • may be costly to obtain & grade e.g. training may be required • may be difficult to interpret • available tests may not assess the full breadth of capabilities & skills
Assessment of Reflection (e.g. journals)	• may provide capture evidence of learning of skills that is difficult to capture via other means • may facilitate learning e.g. working with ill-defined problems and ambiguity	• relies on self-reporting as evidence, with no independent validation of learning • students may omit vital information • students may be uncomfortable revealing inadequacies or feelings • students may overstate or underestimate their learning • raw reflections in particular may

Strategies	Strengths	Problems
		not accurately report attainment of capabilities • relies on a particular genre of writing; may be unfamiliar to student and assessor • reluctance by student to explore "politically incorrect" ideas
Learning Portfolios/ E-Portfolios (containing reflection and/or external evidence)	• can capture a variety of evidence from different sources & in different formats • may be used to provide independent evidence for reflections • broadens options for students e.g. what to include & how to present – this may encourage independent learning	• may partly rely on self-reporting • may be issues around privacy, confidentiality, commercial-in-confidence • time-consuming for students to complete & staff to assess • may have challenges for technical capabilities of students & for access to suitable technology • issues related to who can access materials in portfolio, with implications for photos, privacy, data collection etc.
Oral Tools (e.g. vivas, role-plays, practical tests, moot courts, debates, etc.)	• reduces reliance on written genre • provides controlled conditions for assessment and reduces risk for all participants • may be useful for novices • may capture evidence of learning of skills that are difficult to capture via other means	• decontextualised from the real world

NOTE: There is considerable overlap with Tables 3, 4 and 6.

TABLE 5:
Strategies commonly used for assessment of application of theory to practice

Strategies	Strengths	Problems
Learning Portfolios/ E-Portfolios (containing reflections and/or external evidence)	• can capture a variety of evidence from different sources/formats • may be used to provide independent evidence for reflections • broadens options for students e.g. what to include and how to present – this may encourage independent learning	• may partly rely on self-reporting • may be issues around privacy, confidentiality, commercial-in-confidence • time consuming for students to complete & staff to assess • challenges for technical capabilities of students & for access to technology • issues related to who can access

		materials in portfolio, with implications for photos, privacy, data collection etc.
Host Supervisor Reports	• host supervisor may be better able to observe student performance than academic supervisor, over an extended period • provides contextualised information about student progress	• tension where host supervisor promotes different practice to that used by university • reports may vary in quality • host supervisor may not view this as their role • report needs to be carefully structured to minimise time required of host supervisor, but also to capture enough input to be useful
Project/ Placement – Based Reports	• obvious & direct connection to real world context • can accommodate many of the variables of the placement	• needs to be flexible enough to accommodate the range of different placements • high workload for students & staff • needs to be specifically structured to capture this aspect
Assessment of Raw or In-The-Moment Reflections (e.g. reflective journals)	• may facilitate learning	• indirect measure of learning • relies on student interpretation of practice • may be difficult to interpret & determine the level of sophistication of understanding especially in unstructured reflections • structured reflective activities may be necessary to prompt consideration of this aspect
Assessment of Distilled or Consolidated Reflections (e.g. in a project or research report)	• may facilitate learning • may allow students to demonstrate a more sophisticated understandings than raw reflections	• indirect measure of learning • relies on a particular genre of writing, which may be difficult or unfamiliar to the student or assessor
Tests, Exams or Traditional Essays	• direct measure of this aspect of learning • familiar to academics and students • explores application from placement in an academic context	• may not capture context specific application theory • students may not see direct connection to experience • multiple-choice and short answer items may not showcase this aspect of learning
Oral Tools	• reduces reliance on written	• decontextualised from the real

| (e.g. vivas, role-plays, moot courts, debates) | genre
 • not only demonstrates application of theory to practice, but may also capture integration of practice into theory (praxis) | world |

TABLE 6:
Strategies used for assessment of personal development and/or transformative aspects

Strategies	Strengths	Problems
Assessment of Raw or In-The-Moment Reflections (e.g. reflective journals)	• may facilitate learning • may capture aspects of this kind of learning that are difficult to capture using other Strategies	• indirect measure • relies on student self-reporting • needs to be carefully structured to promote and capture this aspect of learning • relies on a particular genre of writing, which may be difficult or unfamiliar to the student and/or assessor • concerns about student privacy and confidentiality • may be risk to students in confronting difficult issues/incidents or situations • assessor may need to deal with issues that run counter to those promoted by institution, the wider community or their own views
Assessment of Distilled or Consolidated Reflections (e.g. in a project or research report)	• may facilitate learning • may allow students to demonstrate a more sophisticated understanding than raw reflections	*Note: all of the issues listed above for raw reflections also apply for distilled reflections*
Learning Portfolios /E-Portfolios (containing reflections and possibly external evidence)	• can capture a variety of evidence from different sources and in different formats • may be used to provide independent evidence for reflections • broadens options for students e.g. what to include and how to present – this may encourage independent	• relies partly on self-reporting • may be issues around privacy, confidentiality, • time-consuming for students to complete & staff to assess • may have challenges for technical capabilities of students & for access to technology • issues related to who can access materials in portfolio, with implications for photos, privacy

	learning	
Alternative Representations of Reflections and Learning (e.g. story telling, visual representations, etc.)	• decreases dependence on written genre • may facilitate learning & expression of ideas & emotions that are difficult to display in other traditional assessment approaches	• may be difficult to interpret • indirect measure • may be difficult to assess consistently
Oral Tools (e.g. classroom or online debates, seminars, etc.)	• reduces reliance on written genre • may be useful for novices	• decontextualised from the real world • may be risky for participants to expose some cherished ideas to critique
Cognitive Scales	• independent measure	• limited strategy, tackling only some aspects • usually an indirect measure • may be costly to obtain & grade e.g. training may be required • may be difficult to interpret

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