Assessment
for lifelong learning

Dr. Ciara O'Farrell

Academic Practice,
University of Dublin
Trinity College

2017

Assessment defines what students regard as important, how they spend their time and how they come to see themselves as students and then as graduates.........If you want to change student learning then change the methods of assessment (Brown *et al*, 1997).

Introduction:

The purposes of assessment can be defined as:

- Assessment OF learning: summative assessment or assessment that measures learning;

- Assessment For learning: formative assessment that engenders learning, often with an emphasis on feedback;

- Assessment AS learning: assessment that encourages students to reflect on their own learning and increase their 'meta' skills so that they become aware of how they learn.

Positioning assessment in the realm of long-term learning, Boud and Falchichov (2006) describe three main purposes:

I.   to measure achievement (summative assessment);
II.   to engender learning (formative assessment);
III.   to develop graduate attributes which enable students to employ learning in future life settings (lifelong learning).

Assessment OF learning provides important evidence of student performance that enables robust decisions to be made about the award, such as certification to practice or to progress. In order to protect academic standards, our assessment practices must always aim to be reliable, valid and fair. However, too strong an emphasis on assessment OF learning can lead to an over reliance on examinations, and to students learning 'to the test', where their focus is on marks rather than learning (HEA, 2012). Assessment For and AS learning focus on supporting and promoting learning to validate achievement and/or engender learning within and beyond the University (lifelong learning).

What do we mean by lifelong learning in this context of assessment?

With the expected tenure of the workforce's 'millennials' less than three years, our graduates will have numerous jobs or careers over the course of their working lives. One of the primary aims of higher education is to equip students for personal and professional success once they leave the university, to graduate students who have not only the knowledge, but also the skills and behaviours to navigate a complex, globalized 'supercomplex' society (Barnett, 2000) Preparing our students to cope with and succeed in such an unpredictable world is arguably one of the greatest challenges Universities face worldwide.

It is acknowledged that the increased complexity of learning needed by the 21st Century graduate cannot be adequately assessed though examinations (OECD, 2014). Traditional assessment practices do not equip students for the assessment challenges they will face as graduates or for learning throughout their lives: 'Whatever else it achieves, it [assessment] must equip students to learn beyond the academy once the infrastructure of teachers, courses and formal assessment is no longer available.' (Boud and Falchichar, 2006, 399). Assessment *can* be a powerful enabler to prepare our students for a lifetime of learning. To do this it must build our students' capacity to learn for themselves and to assess the learning of others, enabling them to 'make evaluative judgments, to be agents of their own learning, and to see learning as a process' (Jessop and El Hakin, 2014,74).

Boud and Falchikov (2006) delineate ten illustrations of teaching, learning and assessment practices that are aligned with life¬long learning. Such practice:

1. Engages with standards and criteria and problem analysis
2. Emphasises importance of context
3. Involves working in association with others
4. Involves authentic representations and productions
5. Promotes transparency of knowledge
6. Fosters reflexivity
7. Builds learner agency and constructs active learners
8. Considers risk and confidence of judgement
9. Promotes seeking appropriate feedback
10. Requires portrayal of outcomes for different purposes (408-410).

The Trinity Education Project Assessment Framework

The Trinity Education Project (TEP) is focused on the renewal of the education students experience in Trinity College Dublin, particularly in relation to the undergraduate curriculum, and aims to re- articulate a shared vision for the Trinity education across the University. The TEP assessment framework supports academic staff to develop assessment methods that are authentic, relevant and integrated.

Trinity Education Project - Assessment Framework
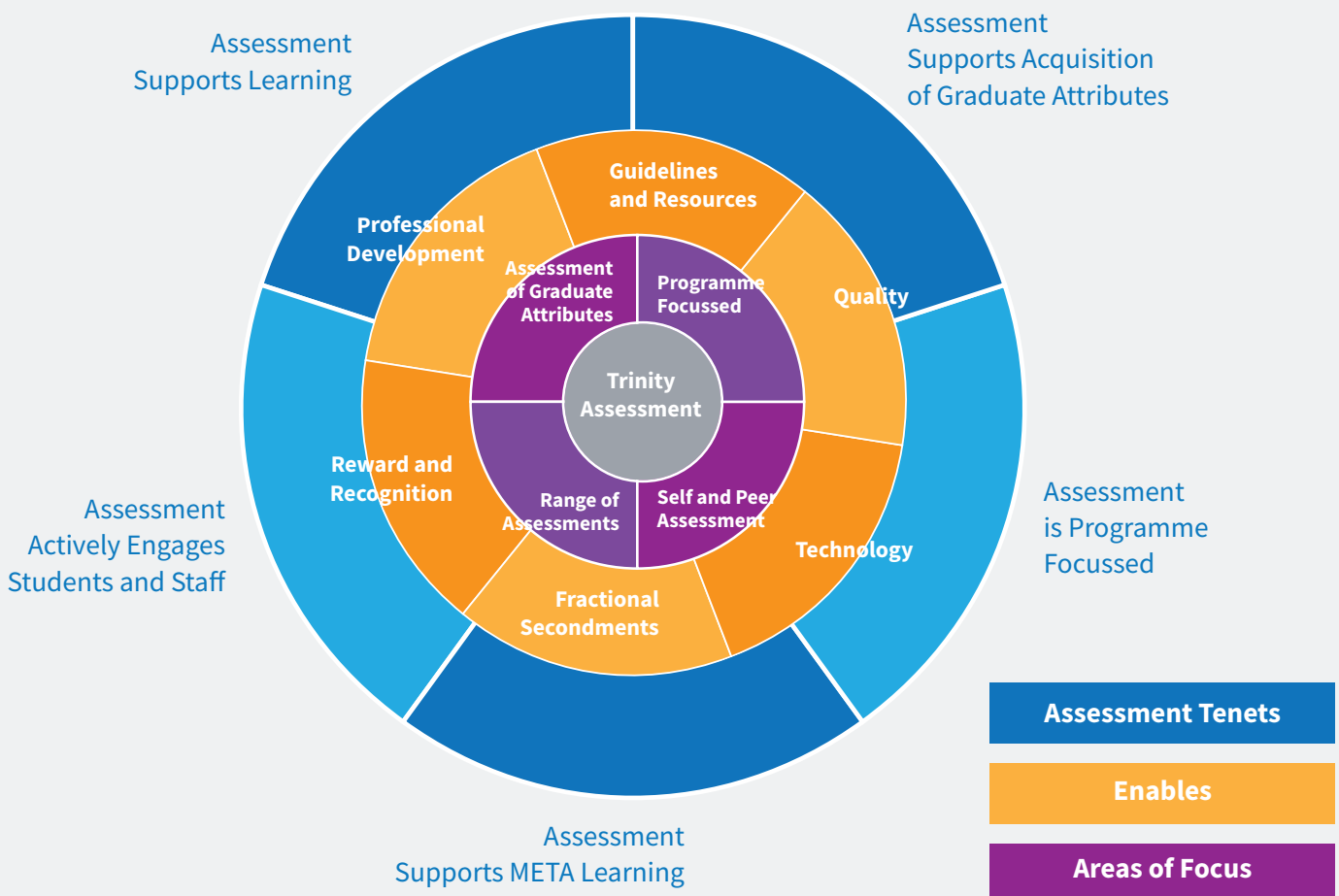
The first layer (outside circle) of our framework shows the tenets, or underpinning principles that inform assessment in Trinity. The middle circle delineates institutional enablers of assessment change. The innermost circle represents the areas of focus that are currently recommended by the assessment strand. Collectively, the framework depicts a structure for enabling transformation in assessment practices and policy in Trinity.

There is considerable consensus in the research literature that a variety of assessment strategies should be employed purposefully over a full programme to promote learning. Traditional summative assessment practices, with a focus on 'knowing 'rather than 'doing' or 'being', can result in students taking a surface approach to their learning; this is compounded by a modularised system where assessment is often broad but not deep, and focused on the micro/module level. A curriculum principle of the Trinity Education Project is that it has a programme focus. In terms of assessment, this allows the whole Institution to redefine assessment, to move beyond traditional assessment approaches, and to consider ways of assessing learning between and beyond traditional discipline boundaries. It requires broad scale curriculum change as well as cultural change and can be achieved through: leadership from course directors, buy-in from staff, staff professional development, quality assurance and technology.

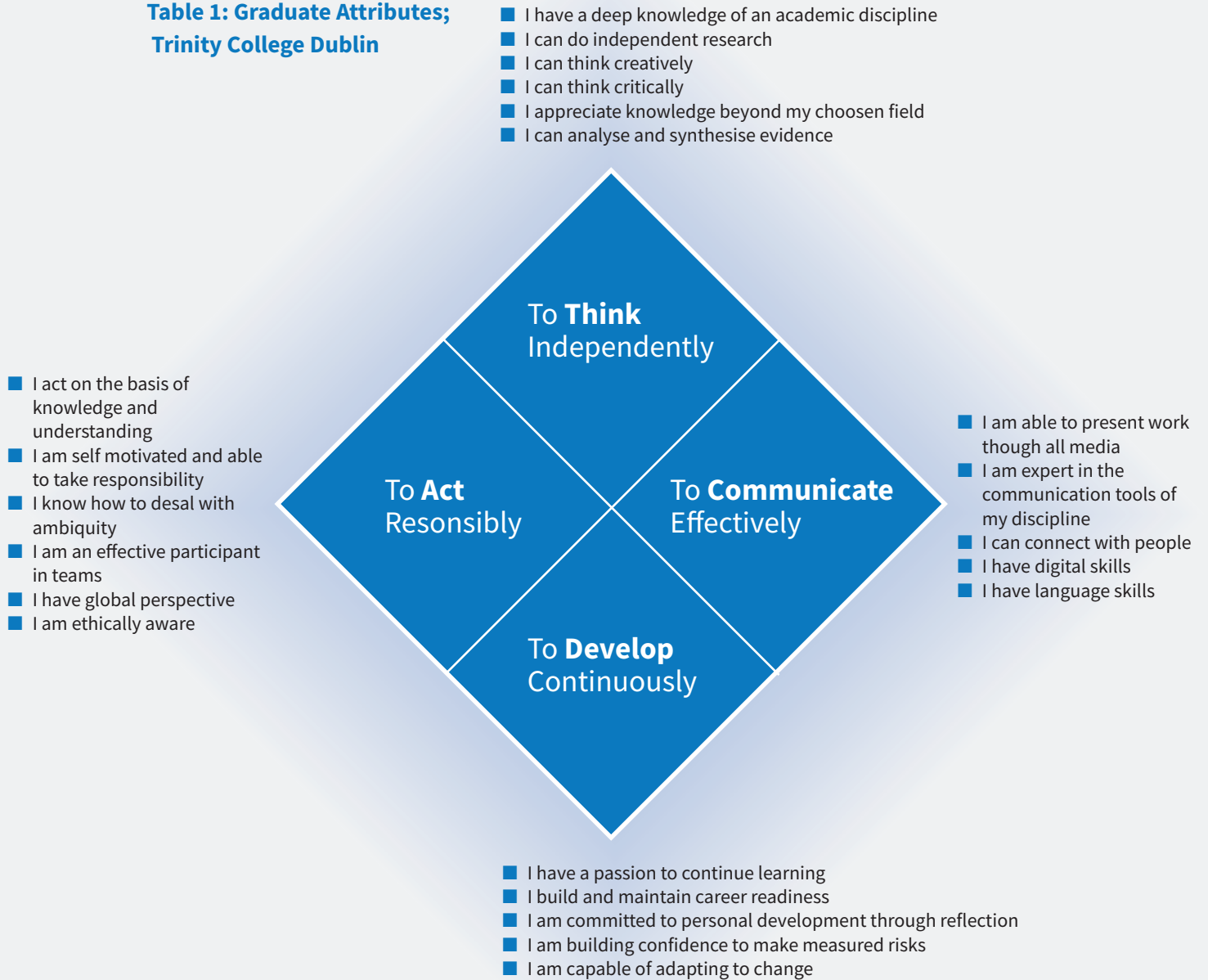## How do we change our assessment practices to enable lifelong learning?

Assessment can simultaneously validate and enable learning both within and beyond the University. This is referred to as 'sustainable' assessment, or assessment that 'meets the needs of the present without compromising the ability of the students to meet their own future learning needs' (Boud, 2000, 151). Achieving this also involves a move from testing knowledge or skills for their own sake, to assessing them for application beyond the university. The following examples show three possible approaches to assess for lifelong learning:

1. Assessing Graduate Attributes.

Graduate attributes are defined as 'the qualities, skills and understandings a university community agrees its students should develop during their time with the institution' (Bowden et al. 2000). Such attributes are usually achieved over time, within and beyond the traditional curriculum, and over the whole of the University experience, for example through participation in the social community of the university, or through co-curricular activity (Barrie, 2007).

Table 1 shows Trinity College Dublin's Graduate Attributes. Assessment can provide our students with opportunities to develop and evidence achievement of this range of graduate attributes that support their academic growth and shape the contribution they make to their profession and to society.

Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

Table 1: Graduate Attributes;
 Trinity College Dublin

- I have a deep knowledge of an academic discipline
- I can do independent research
- I can think creatively
- I can think critically
- I appreciate knowledge beyond my choosen field
- I can analyse and synthesise evidence

To **Think**
Independently

To **Act**
Resonsibly

To **Communicate**
Effectively

To **Develop**
Continuously

- I act on the basis of knowledge and understanding
- I am self motivated and able to take responsibility
- I know how to desal with ambiquity
- I am an effective participant in teams
- I have global perspective
- I am ethically aware

- I am able to present work though all media
- I am expert in the communication tools of my discipline
- I can connect with people
- I have digital skills
- I have language skills

- I have a passion to continue learning
- I build and maintain career readiness
- I am committed to personal development through reflection
- I am building confidence to make measured risks
- I am capable of adapting to change

While graduate attributes can be achieved in the co and extra curriculum, it is also important that they are embedded in the programme and given a discipline-specific context. While traditional discipline assessments are more effective in evidencing cognitive domains of attributes or skills (such as communication capabilities) they are less successful in assessing attributes relating to attitude, values or metacognitive abilities (such as a sense of responsibility). These have been termed 'wicked competencies' (Knight and Page, 2007) and there is recognition that they cannot always be reliably assessed. In such cases it is recommended that we devise alternative ways of making information of student achievement available to stakeholders. The following example shows how assessment of 'continuous development' this can be approached in a module, through the employment of a creative summative assessment.

Graduate Attribute Assessed: To develop continuously.

Module: Professional Development and Leadership in Diagnostic Radiography.

Weighting: 5 ECTS

Audience: Final year diagnostic radiology students.

Number of students: 20-40.

Rationale: The diversity and development of health care services require that graduates are equipped with an understanding of continuing professional development, leadership and education. This assessment encourages students to reflect on their learning from the module to apply it within their professional practice, both now and in the future.

Pre Assessment: Students are given the assessment criteria, explaining the marking scheme and the quality and level of the reflection required, and this criteria is discussed in class as part of a workshop on reflective practice.

Assessment task: In this 5ECTS module, students are assessed by submission and presentation of a photograph they have taken on their mobile Phone - an image that represents professional practice and teaching & learning. Using their photograph as a catalyst, each student reflects on their experiences of professional placement and presents for five-minutes to the class and a panel of assessors. In this presentation they describe their photograph, how their learning from the module has informed their beliefs and practices about teaching and learning and how it will influence their future role as professionals.

(A second assessment focuses on leadership)

Example of photograph presentation:

- This photo was taken in a Cardiac laboratory.
- This photo shows a senior radiologist teaming up with a junior radiologist to work on a difficult case.
- Although the Senior Radiologist is the 'teacher' in this case, there was a process of peer interaction.

(Senior Sophister Radiology Student,
Trinity College Dublin)

2. Making our assessment tasks more authentic.

If assessment is to prepare students for the realities of being a professional in a 'technology-mediated, information-rich, and increasingly collaborative workplace' (Lombardi, 2008), then new forms of assesment FOR and AS learning are required that encourage engagement with complex problems, including those drawn from real life, and those that enable the type of deep thinking and problem solving that students will need to demonstrate throughout their professional lives. This way assessment tasks become relevant and meaningful, encouraging students to see the learning instead of just the marks.

A selection of 'authentic' assessment practices in Trinity College Dublin:

Broad scale assessment pedagogies: problem or enquiry-based learning, competence-based assessment, or discipline specific pedagogies such as Objective Structured Clinical Examinations in Medicine.

'Authentic' assessment tasks: Social policy students preparing a set of guidelines for a lay audience; BESS students writing business plans; Literature students writing abstracts and mirroring a peer review process, where students form editorial panels and critique each other's abstracts; History students designing a children's book about historical events.

Research-like activities such as: gathering data on a field trip and preparing a report for the relevant industry as well as for the academic assignment; Laboratory research articulated in oral presentations (Chemistry); Clinical Speech and Language Studies students writing research protocols. Creative research such as Natural Science students researching breakthroughs in science through a play, poem, film or puppet show before writing and reflecting on the process.

Outward facing assessment for external audiences: Computer Science students pitching ideas to each other and to a panel of external assessors in a Dragon's Den scenario. 'External dragons' from software companies attend student pitches and provide feedback; Microbiology students creating posters and showcasing them to a lay audience (Microbiology); Engineering students presenting designs to industry experts.

3. Using assessment to engage students in meta-learning.

Boud and Falchikov (2006) argue that if we want our students to become effective lifelong learners, we must enable them to become assessors themselves. This encourages students to be participants in assessment practice instead of just being its objects. This doesn't necessarily mean that students take over the role of assessor but that they learn to analyse their own performance; identify gaps in their learning and plan for improvement; or to understand how to apply knowledge and skills learnt from one assessment in a different context . These are all valuable lifelong skills. Assessment for lifelong learning rewards students' ability to reflect on and critically evaluate their own learning, to assess the quality of their performance against agreed standards and to build the capacity to use these skills of judgment to influence their future learning and practice. An indispensable condition for improvement in student learning is that 'the student comes to hold a concept of quality roughly similar to that held by the teacher' (Sadler, 1989, 121).

Students need to possess the 'meta' skills needed for a lifetime of learning. Such 'meta' skills include:

- Meta-learning skills, or the ability to make informed judgments about their learning and performance levels and that of their peers;
- Metacognitive skills, or self-awareness, self-regulation and their application.
- Meta-work skills, or higher-order evaluation skills needed to identify and capitalize on learning opportunities throughout their careers.

These 'meta' skills can be encouraged through enabling students to monitor their own learning. Assessment activities that explicitly endorse and involve critical reflection, self-critique and evaluation play a key part in the development of meta skills.

Self and peer assessments are also valuable assessment methods where students make evaluative judgements on their own work and that of others, skills required for both effective present learning and future learning. In self and peer assessment the focus shifts from students striving to simply satisfy the lecturer/assessor, to fostering a sense of responsibility for one's own learning. Students also gain confidence in their ability to apply their learning in contexts beyond the University. There are various levels of self and peer assessment. For example, self-assessment can begin with students submitting assignment cover sheets where they identify and reflect on their perceived strengths and weaknesses, without assigning themselves credit. But it can also involve summative marking. For example, in a Law module in Trinity College Dublin, students are encouraged to internalise academic evaluation criteria and apply it to their work for a 10% assessment component.

See pamphlets in this series on Peer Assessment (Wride, 2016) and Self Assessment (Wride, 2017).

Case Study: Self Assessment in Alverno College

Adapted from: Grantz and Gruber (2014). 'How well did I learn what I learned? The Art of Self Assessment.'

Alverno College is a recognised leader in the area of outcomes-based learning and self-assessment. An institution-wide focus on achievement of graduate outcomes and lifelong learning through self-assessment enables students develop:

- A sense of responsibility for their own learning and the ability and desire to continue learning
- Self-knowledge and the ability to assess her own performance critically and accurately, and
- An Understanding of how to apply her knowledge and abilities in different contexts (p.26)

Their aim is for students to value and use self-assessment as a part of their ongoing professional development after graduation (lifelong learning). In this Institution, the self and peer assessment process is carefully guided and approached on various levels. When students integrate their assessment performance and their reflection on it (self assessment) they begin to understand what can be applied in future contexts, and what can be integrated across multiple contexts.

- In initial years students are encouraged to answer some simple questions about specific aspects of their assessment. For example, they might be asked to identify where they have applied a concept, or to identify what aspect of the assessment they found most difficult.
- This becomes a repeated practice where students become used to examining their strengths and areas for improvement across the programme.
- At more advanced levels, students are given more open-ended questions or tasks such as describing criteria for a successful performance or creating a specific plan to improve their performance. Final year students are often asked to reflect on how they could apply their learning in internships or in the community.

Conclusion

As educators, a common challenge we face is to how to design assessment practices and processes that encourage students to develop a deeper approach to their learning. To achieve this, changes are required in both the educator and the student. As educators we can enable our students to develop life long learning skills through assessment; but students must be also contribute to their own learning if they are to become life long learners capable of judging their own actions (Boud, 2000). This paper has discussed learning and assessment opportunities that can help higher education students to build, articulate and document graduate attributes, enabling students to learn beyond their university expereince, thus becoming effective lifelong learners.

References

Barnett, (2000). Realizing the University in an age of supercomplexy. SRHEA

Barrie, S. (2007). A conceptual framework for the teaching and learning of generic graduate attributes. Studies in Higher Education. 32:4, pp.439-458.

Boud, D. (1995). *Enhancing learning through self-assessment.* London: Kogan Page

Boud, D and N. Falchichov. (2006). Aligning assessment with long-term learning. *Assessment & Evaluation in Higher Education* Vol. 31: 4, pp. 399–413

Bowden, J., Hart, G., King, B., Trigwell, K., & Watts, O. (2000). *Ge- neric capabilities of ATN university graduates.* Canberra: Australian Government Department of Education, Training and Youth Affairs. http://www.clt.uts.edu.au/atn.grad.cap.project.index.html

Brew, A (1995). What is the scope of self-assessment? In Boud, D. *Enhancing learning through self-assessment (*pp. 48-63). London: Kogan Page

Brown, G., Bull, J. and Pendlebury, M. (1997), *Assessing student learning in higher education.* London: Routledge.

Grantz, R and Gruber, R. (2014), 'How well did I learn what I learned? The Art of Self Assessment.' Journal of the Academy of Business Education, pp. 23-40.

Higher Education Academy (2012). A marked improvement: Transforming Assessment in Higher Education

Jessop, T., El Hakim, Y., and Gibbs, G. (2014) 'The whole is greater than the sum of its parts: a large-scale study of students' learning in response to different programme assessment patterns', Assessment and Evaluation in Higher Education, Vol. 39, pp. 73-88

Knight, P. T. (2002), 'Summative assessment in higher education: practices in disarray'*, Studies in Higher Education,* vol. 27, no. 3, pp. 275–286.

Knight, P. and Page, A. (2007). A study of the assessment of wicked competencies. Open University.

Lombardi, M. (2008). Making the Grade: The Role of Assessment in Authentic Learning. https://net.educause.edu/ir/library/pdf/eli3019.pdf [Last accessed November 22nd 2016]

OECD (2014). High level group on modernization of higher education. Report to the European Commission on new modes of learning and teaching in higher education.

Sadler, R. 1989. Formative Assessment in the Design of Instructional Systems. *Instructional Science.* Vol. 18, pp119-144.

Trinity Education Project Website: https://www.tcd.ie/academic-services/tep/

Wride, M (2016). Guide to Peer Assessment, Academic Practice, University of Dublin, Trinity College, and LLAF resource.

Wride, M (2017). Guide to Self Assessment, Academic Practice, University of Dublin, Trinity College, and LLAF resource.