

Fostering and assessing 'wicked' competences

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Abstract

Empirical and other enquiries indicate that the assessment of 'wicked' competences is problematic. This is unfortunate since 'wicked' competences include 'soft skills' and other performances, skills and dispositions that are highly valued by employers.

Evidence collected in this study that there are, in fact, few reported problems in the assessment of 'wicked' competences may indicate that there is a problem of 'false consciousness', with practitioners simply not seeing how limited their assessment plans are. If that is the case, then not only is there a problem of improving assessment, there is a problem of raising awareness of the problem itself. This also raises the issue of how best to foster the formation of 'wicked' competences in higher education.

Keywords

Assessment, higher education, complex achievements, 'wicked competences' professional formation

I. INTRODUCTION

Many problems in professional life can be described as 'wicked' problems. That means that they resist definition, shift shape and are never 'solved' (see also Conklin, 2003). Complex achievements might also be 'wicked'. The idea is developed with particular reference to work-integrated learning which, in this paper, is treated as professional learning in formal higher education programmes.

Employers value graduates who have 'soft' skills, graduate attributes and complex achievements (Knight and Yorke 2003), all of which can be described as 'wicked' competences; an achievement, such as creativity or critical thinking, cannot be precisely defined, takes on different shapes in different contexts and is likely to keep on developing. Not only are these 'wicked' competences valued by employers, but they are also necessary for successful study in universities and college. There is also a view that a purpose of higher education is the development of identity, of which the formation of 'wicked' competences is a part (Barnett and Coate, 2005). It follows that higher education should strengthen them. At first sight, work-integrated learning seems to have particular power to help here.

But, even if work-integrated learning might help in the formation of 'wicked' competences, how might such ill-defined achievements be assessed – and do assessment practices raise any implications for work-integrated learning practices themselves? These questions are important for at least two reasons: so that employers and other stakeholders in higher education can know what new graduates understand and can do; and so that work-integrated learning is optimally organised to foster these achievements and competences.

This paper is in two unequal parts. In the first, there is a report on empirical work on the assessment of nine ‘wicked’ competences in six subject areas. Reflections on implications for work-integrated learning practice form the second part. This work was sponsored by the UK Practice-based Professional Learning Centre and was done between March and December 2006, with the report appearing in January 2007 (http://cetl.open.ac.uk/pbpl/p4_2.shtml).

II. ‘WICKED’ COMPETENCES AND THEIR ASSESSMENT

‘Wicked’ competences are achievements that cannot be neatly pre-specified, take time to develop and resist measurement-based approaches to assessment. They are important to *higher* education, since they are widely valued by employers and smooth the path of study and other forms of research¹. It was anticipated that there would be acute problems assessing them for two reasons:

1. Higher education assessment practices tend to be defective because (a) ‘measurement’ approaches to assessment tend to dominate and are clearly unsuited to ‘fuzzy’ or complex competences (Knight and Yorke, 2003) (b) ‘measurement’ approaches often fall short of good standards of measurement practice (Knight, 2002) (c) where ‘formative’ assessment is used as an alternative, important practice requirements are not regularly met (Knight and Yorke, 2003) (d) programme-level or integrated assessment is important when ‘wicked’ competences are concerned but is also inadequately applied (Knight, 2000) (e) university judgements of achievement are local, poorly expressed and often mistrusted (Knight 2006).
2. Research into method in social science either sets standards that are seldom met by university enquiries into students’ ‘wicked’ competences or shows that there will tend to be multiple understandings of social phenomena (Law, 2004). Both critiques can be applied to university assessment practices, especially when those practices relate to the assessment of ‘fuzzy’ phenomena, such as ‘wicked’ competences.

This study used key informants in six subject areas to identify nine such competences, as shown in Table 1. The competences that key informants nominated were often not those valued by professional bodies – key informants’ preferences were respected on grounds of practitioner authenticity.

Table 1. The nine competences in the empirical study

Competence	Subject areas
a. Developing supportive relationships	Secondary teaching Youth work
b. Emotional intelligence	Youth work
c. Group work	Accounting
d. Listening and assimilating	Nursing
e. Oral communication	Accounting Early years teaching
f. Professional subject knowledge	Social work
g. Relating to clients	Nursing Secondary teaching
h. Self-management (confidence and effectiveness)	Early years teaching
i. ‘Taking it onwards’ – acting on diagnoses	Social work

¹ To be scrupulous, there is some evidence that a lack of ‘wicked’ competences, employability skills and the like on graduation may not matter after three years of graduate employment. Mason and colleagues (2003) found some indications that differences become evened out through (probably non-formal) learning in the workplace. There is a catch though. Those with employability skills or ‘wicked’ competences were more likely to be employed in the first place. If that is the case, institutions concerned with employability will be equally concerned that their graduates are engaged in ways that foster the competences that get them on the job ladder.

First, a web search was done to expand understanding of the current usage of each target competence in the associated subject areas. Incoherence, platitudes and confusion were widespread.

Second, the key informants, as well as others recruited through Higher Education Academy subject networks and professional bodies, were asked, by on-line survey², about assessment practices, purposes, problems and possibilities in respect of the target competences. Eighty-three respondents reported on eight of the nine competences. Findings were organised around three themes: the difficulties of assessing the competence; the priority given to assessing these competences in higher education; and means by which they were assessed.

There are no particular surprises in the means used to assess these competences; nor was it surprising to see that assessing them did not always get the priority that might have been expected. The surprising finding was that they were not seen to be especially difficult to assess. The web search of current usage of the target competences had only added to expectations that assessment would prove to be problematic, a supposition confirmed by key informants. Three main lines of explanation for this surprising finding were proposed:

1. 'wicked' competences are not really hard to assess and suppositions to the contrary had been wrong;
2. the enquiry methods used were not fit for the purpose;
3. there was a degree of 'false consciousness' amongst respondents, which is to say that they did not recognise the problems that actually were manifest in their practice.

Third, a sub-sample of fourteen informants from the three best-represented subject areas was contacted by phone in December 2006 to elaborate points revealed by the analysis of the survey data. Interview data were thematically analysed following established qualitative methods, aided by Nvivo7 software. Interviews did disclose a lot of problems in the assessment of 'wicked' competences and favour the second and third explanations. However, they do not allow us to prefer one over the other and it is possible that they are both valid. The interviews do support the supposition that the assessment of 'wicked' competences is problematic.

This suite of enquiries, empirical and otherwise, prompts three recommendations.

1. There is reason to suppose that the formation and assessment of 'wicked' competences should best be conceived in terms of programme³, not course design (Knight and Yorke, 2003), although there is little research into programme design and less on programme assessment. However, work (Huber *et al.*, 2007) in the USA on integrative learning seems to be tracking similar territory to this enquiry into 'wicked' competences, with two crucial differences. First this 'wicked' competences work also attends to means of fostering such competences and second, it is adamant that programme approaches are necessary — American work is less insistent on this point.
2. Further enquiries could be justified. Close-up research is recommended, involving in-depth study of assessment regimes in programmes of study. Such work is inherently expensive.
3. Any interventions to enhance the assessment of 'wicked' competences should begin by helping colleagues to appreciate the inadequacies of current practices that are typically – and wrongly – assumed to be 'good enough'. This is a double challenge for innovators. Not only does assessment practice have to be improved, but colleagues need to be convinced of the need to improve it in the first place.

² The survey was available in three formats, including hard copy, but only on-line responses were received.

³ A programme is the set of units, courses or modules leading to an award, such as a Diploma, bachelor's or doctor's degree.

Suggestions for superior assessment practice are to be found in the project report at http://cetl.open.ac.uk/pbpl/p4_2.shtml.

III. IMPLICATIONS FOR WORK-INTEGRATED LEARNING PRACTICES

Feltovich and colleagues (2004) identify eleven dimensions that affect task difficulty. Referring to the following extract, and broadly speaking, tasks are more straightforward when they tend towards the left pole on each dimension – when they are static, discrete, separable, and so on.

Static vs dynamic. ... Are phenomena static and scalar, or do they possess dynamic, vector-like characteristics?

Discrete vs continuous. ... Can we describe attributes by using a few categories ...?

Separable vs interactive. Do processes occur independently or with only weak interaction, or do strong interactions and interdependence exist?

Sequential vs simultaneous. ... do multiple processes happen at the same time?

Homogenous vs heterogeneous

Single vs multiple representation. Do elements in a situation afford single or just a few interpretations ...?

Mechanism vs organicism. Are effects traceable to simple and direct causal agents ...?

Linear vs non-linear. ... Can a single line of explanation convey a concept or account for a phenomenon ...?

Universal vs conditional Do guidelines and principles hold in much the same way ... across different situations ...?

Regular vs irregular. Does a domain exhibit a high degree of regularity or typicality across cases ...?

Surface vs deep. Are important elements for understanding and guiding action delineated and apparent on the surface ...?

‘Wicked’ competences tend to the more problematic pole of each dimension, especially when they are authentically assessed, as in work-integrated learning situations. In such settings assessment conditions cannot be well controlled and reliability is expensive. Add to this scepticism about higher education assessment practices in general, as sketched in section I, and it becomes hard to think in classic terms about the assessment of ‘wicked’ competences. Established assessment wisdom breaks down with the assessment of such competences.

One way of approaching this problem is to reverse the saying that assessment determines the curriculum – to put assessment aside for the moment and to concentrate on learning and teaching processes. In programmes of study related to areas of professional practice, this would entail:

1. Planning for coherent programme teaching and learning arrangements – the emphasis would be on creating a coherent view of the programme’s purpose and ‘ways of doing things round here’. An example, would be establishing a work-centred vision in which a commitment to the development of effective professional practice is central.
2. Creating a set of learning affordances – including work placements, work-integrated capstone projects and professional simulations – that favours the emergence of complex achievements (‘wicked’ competences). This may imply a preference for problem-based learning, although there are multiple operationalisations of the concept and favouring it is not a necessary corollary of a ‘learning affordances’ approach.
3. Recognising that learning happens and that it does so by means of formal engagements and through non-formal processes. Affordances should support formal learning and non-formal emergences.

4. Putting student engagement at the heart of programme thinking. Pascarella and Terenzini (for example, 2005) consistently show that student engagement is central to college success. Without engagement, learning is stunted. But when there is engagement with programmes designed to evoke complex achievements, as well as more straightforward ones, then rich achievements are more likely to be visible.
5. Understanding curriculum as a set of arrangements likely to favour the emergence, in cohorts of students and not in individuals, of certain outcomes. In this sense, curriculum is a set of arrangements that increases the probabilities that certain learning will be evoked and that individuals following that curriculum will tend to become better in terms of those curricular intentions.

This is a view of work-integrated curricula as the creation of environments that are consistently rich in affordances that favour the formation of skilful, novice practitioners. Instruction retains a place, especially when it comes to helping students form understandings of professional propositional knowledge – knowledge of information and its sources; of algorithms; and of standard practices. Established assessment techniques, including quizzes, short-answer questions and essays, will continue to have a place here. Establishes assessment techniques, such as lab reports, case-study analyses and objective structured clinical examinations, will also have a place when it comes to judging the quality of tolerably straightforward procedural knowledge, or ‘know how’.

But when it comes to ‘wicked’ ‘competences’, a radical curriculum reappraisal leaches into a radical assessment reappraisal. Key features of assessment that is sensitive to complex – or ‘wicked’ – achievements in professional programmes include:

1. A clear recognition that assessments are provisional judgements, based on evidence-at-hand, and that they need to be intelligibly represented as such.
2. The design of coherent work-integrated programmes that (a) take a progressive view of learning development (b) that dovetail learning design and assessment design (Gibbs and Dunbar-Goddet, 2007).
3. The design of assessment regimes that engage students as participants and thereby make assessment sustainable (Boud and Falchikov, 2007). This is in opposition to regimes of power that colonise students and, at best, do nothing to support lifetime learning.
4. A recognition that (a) feedback is crucial to learning (b) feedback comes from multiple sources (Knight, 2007) (c) good learning environments evoke student use of plentiful feedback from these sources (Gibbs and Simpson, 2004).
5. Public assessments of the likelihood that learning environments will foster the complex or ‘wicked’ achievements that programme specifications claim they will.

The last point, elaborated in Knight (2007), is more radical than it looks and takes us back to curriculum. The implication is that, where there is a concern to foster complex or ‘wicked’ achievements, then rather than trying to warrant individual attainments, we instead assume that good learning and teaching arrangements are likely to evoke the intended learning achievements, and assume that stakeholders should prefer to ask for evidence that a good curriculum⁴ is in place. If so, unless there is other evidence to the contrary⁵, it is likely that graduates will perform in expected ways.

In short, assessing *individuals* in terms of ‘wicked’ competences has limited potential. Assessing the likelihood that curricula will promote those achievements in *cohorts* is a more fruitful approach.

⁴ Following common usage, ‘curriculum’ is understood as the set of learning, teaching, assessment and other arrangements that is intended to promote defined educational intentions or goals.

⁵ For example, a good curriculum might be in place but there might be evidence that it is a ‘paper curriculum’ and not an operational one.

