Authentic learning: What is it, and what are the ideal curriculum conditions to cultivate it in?

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Abstract: 'Authentic learning' comprises a complex of principles that can guide institutions in designing curricula to prepare graduates for the real world. The Faculty of Rural Management, The University of Sydney, has always sought to engender authentic learning, before it implemented a capability education program, and since. The authors report on a recent external review of the first three years of their capability-enhanced curriculum, and enlist the notion of curriculum integrity to outline what more needs to be done to achieve what they presently aim to do.But there's more. The authors wish to initiate debate within their institution and elsewhere on expanding the cluster of principles of authentic learning; they want their students to be able "to distinguish that which rings true to one's experience of the world and is worthy of one's trust, from that which is not". The additional outcome for authentic learning in a constructivist curriculum thus becomes: "learning that triggers critical self-reflection, through which students' worldviews and values are confirmed or challenged". In this paper the authors prepare their case for their Faculty's consideration, and invite colleagues at the conference also to comment from their various disciplinary, worldview and value perspectives.

Keywords: Authentic learning; curriculum integrity; capability education

Presage

The construct, authentic learning, is a measure of a curriculum's relevance or appropriateness to the world that graduating students will enter. It is appropriate that professional formation programs, like those offered by the Faculty of Rural Management at the University of

Sydney, be appraised according to the fitness of graduates for their chosen careers. In this paper we embark on a two-part process: first, we apply the authentic learning construct (tool) to evaluate Faculty practice; then we consider the fitness, the adequacy of the tool – the accepted view about authentic learning within the literature – for our Faculty's ongoing curriculum development process. The criterion we will employ to critique authentic learning as an evaluative tool is one that is only now emerging, as we reflect deeply on the processes we are immersed in. We are beginning to see that learning is authentic to the extent that it enables meaning makers to *distinguish that which rings true to our experience of the world and is worthy of our trust, from that which is not*. Essentially we are saying that the torchlight of authentic learning reaches out far beyond considerations such as a graduate's fitness for a particular career.

Authentic learning according to the literature

Authentic learning involves alignment of student learning experiences with the world for which they are being prepared. Elizabeth Murphy's statement about constructivist teaching and learning – "learning situations, environments, skills, content and tasks are relevant, realistic, authentic and represent the natural complexities of the 'real world'" (Murphy, 1997) – suggests a close alignment between constructivism as an educational philosophy and authentic learning as a pedagogical ideal. Similar themes are to be found in Jonassen (1991, 1994), Wilson and Cole (1991), and Honebein (1996). The notion of authenticity as 'life-like' has so permeated higher education thinking in this country that it became the natural organising principle for a major Commonwealth-funded (CAUT) project on assessment practice. Nightingale et al. (1996) report that the project team used the notion of assessment as modelling real life situations as the most useful concept for organising the wealth of material they wanted to showcase. The 2002 Edith Cowan University Authentic Learning Award picks up the same view of authenticity, but also recognises some important enabling features of an authentic learning environment: it defines learning as authentic when "activities represent the types of complex tasks performed by professionals in the field, rather than decontextualised or contrived activities. Students have access to supporting resources and engage in collaboration, articulation and reflection as they produce outcomes typical of quality performance."

The authentic learning focus in the Faculty of Rural Management

How well does our Faculty perform against the yardstick of authentic learning? We will argue that strong evidence for the existence of that authentic learning environment can be found within the current curriculum in the Faculty and in its commitment to fuller implementation of a capability approach.

Authentic learning has always been of central importance in the Faculty curriculum
Ever since the Faculty commenced operations in 1973, teaching and assessment have revolved around the various sectors where our graduates are primarily destined. A recent edition of our inhouse *Learning Matters* bulletin asserted that the Faculty should "continuously ask how its programs can more effectively deliver first class professionals" for these sectors (McKenzie, 2002). Our spheres of interest are indicated in the names of our undergraduate degrees – farm management, equine business management, horticultural management, ecological agriculture, land management, agricultural commerce, rural business administration, and management (generic). The programs we offer present disciplinary knowledge and cultivate problem-solving capability to achieve our goal of professional formation – to graduate competent

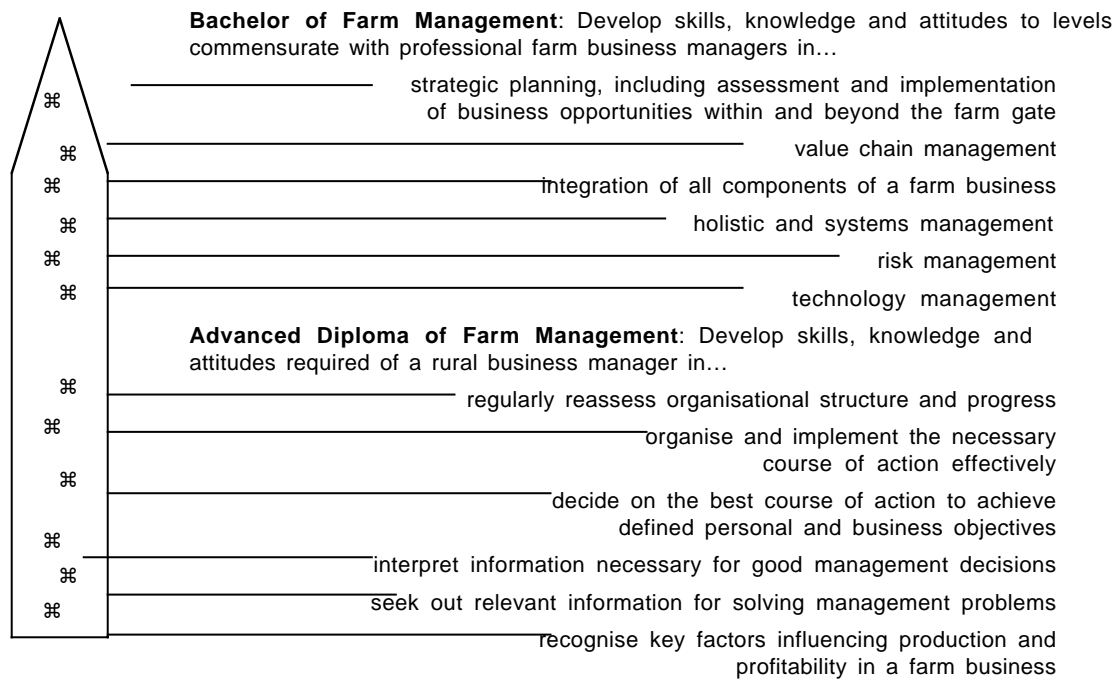practitioners. This emphasis is illustrated in figure 1 where the broad goals of one nested program are shown.

Bachelor of Farm Management: Develop skills, knowledge and attitudes to levels commensurate with professional farm business managers in…

⌘ strategic planning, including assessment and implementation of business opportunities within and beyond the farm gate

⌘ value chain management

⌘ integration of all components of a farm business

⌘ holistic and systems management

⌘ risk management

⌘ technology management

Advanced Diploma of Farm Management: Develop skills, knowledge and attitudes required of a rural business manager in…

⌘ regularly reassess organisational structure and progress

⌘ organise and implement the necessary course of action effectively

⌘ decide on the best course of action to achieve defined personal and business objectives

⌘ interpret information necessary for good management decisions

⌘ seek out relevant information for solving management problems

⌘ recognise key factors influencing production and profitability in a farm business

Figure 1: The competent practitioner focus of the farm management program

A focus on the world of professional practice exists to a greater or lesser extent in all undergraduate units of study; for example, consider our reflective report card on the Faculty's foundation or gateway unit into professional formation, *Introduction to Management* (compulsory for almost all students) (table 1). The manager mentor program mentioned in the table involves students working in small groups with a practising business manager who acts as their mentor.

1.	Real-world relevance where learning is embedded in social practice	There are several theoretical and experiential sub-themes within the unit, but these frames of reference are ultimately positioned in terms of the student's own professional formation as a manager.
2.	Authentic tasks, with diversity of outcomes	Students visit and interview managers in their workplaces. This, in addition to the manager mentor program, provides real world exemplars against which students appraise their own managerial capability.
3.	Opportunities for students to examine content and tasks from a variety of perspectives	The *manager mentor* process requires students to critique their case study manager in terms of models of management that depict different conceptualisations of manager interventions.
4.	Opportunities for students to collaborate, articulate and reflect	Students engage in the manager mentor process in syndicate groups, reflect collaboratively, and present their critique orally to the class and to invited manager mentors.
5.	Assessment is authentic and seamlessly integrated with tasks.	Written and oral manager mentor reports are simultaneously learning activities and assessment tasks.

Table 1: Report card on unit, *Introduction to Management*

While the skills, the concepts, and the way of thinking embodied in *Introduction to Management* can be found in subsequent units of study, the Faculty is considering how to build on these elements in a more planned way.

The second way we aim to provide authentic learning is through our capability approach. The Faculty of Rural Management adopted a policy of capability development in its undergraduate programs from 1999 (Cochrane et al., 2002). A key feature of this innovation was the review and customising of the University's set of generic attributes to suit the Australian rural context in which most of our graduates work. The Faculty's set of nine graduate capabilities may be viewed at
http://www.orange.usyd.edu.au/pages_student_services/graduate_capabil.htm.

When the Faculty adopted its capability development policy, it also resolved to implement a three year trial of a capability portfolio, whereby the 1999 first year intake of internal students would monitor their own capability development within units of study and in wider contexts, and progressively record this in a portfolio. An important feature of the portfolio is that it becomes a vantage point from which to appraise one's capability development throughout one's course and in all one's life experience. Certain provisions – a system of academic advisers in the third year, for instance – were introduced to help students cultivate their capabilities and prepare their portfolios. The three year trial has now come to an end, and an external evaluation, reported in three stages, has been received.

Prior to graduation, students in the trial cohort were required to submit their completed portfolio and defend it at interview with a panel including an industry partner. In table 2 we list what can be inferred from an external evaluator's final report (Squires, 2001) about the degree to which our capability education program provides opportunities for authentic learning.

1.	Real-world relevance where learning is embedded in social practice	• The portfolio interview panel includes an industry practitioner, and thus simulates a job interview. 52.3 % believed this interview helped them "a fair bit" or "a great deal" in understanding and being confident about their capability to achieve. Only 2.4 % thought it was of no help (#16.5). One respondent wrote, "The interview … gave first hand experience of a real life situation" (#18). • 63.4 % of students believed the preparation of the portfolio had helped their understanding of capability 9: *to value a citizenship role which is connected to and responsible for the social, environmental and economic systems in which we live* (#17.9).
2.	Authentic tasks, with diversity of outcomes	• 52.4 % believed the program enabled them to demonstrate a degree of proficiency in those qualities that industry expects of its employees (#8)
3.	Opportunities for students to examine content and tasks from a variety of perspectives	• 56.1 % believed the preparation of the portfolio had helped their understanding of capability 8: *to hold perspectives which acknowledge local, national and international issues* (#17.8).
4.	Opportunities for students to collaborate, articulate and reflect	The capability program itself is the focus of reflective group discussion in selected units in years 1 & 2, and in the academic adviser system (year 3). • 61.8 % believed the program assisted them to become more reflective learners (#6). • One wrote that the program "has helped me to conceptualise and visualise how I have developed and grown at uni" (#18).
5.	Assessment is authentic and seamlessly integrated with tasks.	The portfolio and interview are simultaneously authentic learning activities and assessment tasks. • One student wrote that the program "made me more aware of the types of things industry employers are seeking in candidates and so I can work them into an interview and develop them in the future" (#18).

Table 2: Report card on the Faculty's capability education program

In December 2001 the Faculty considered the external evaluator's final report, reaffirmed its commitment to a capability-enhanced curriculum, and set up a working party to advise the Faculty on what it should do now to more fully realise the curriculum's potential. That report will be presented to the Faculty by June 2002.Our claim that authentic learning is of central importance within our curriculum has two supporting arguments:

- within individual units of study, conceptual and experiential elements of the curriculum revolve around and find their point of integration in the student's progressive professional formation; this was illustrated in our short profile of the gateway unit, *Introduction to Management*
- the process involved in preparing a capability portfolio ensures that students, over the duration of their course, self-reflect on their developing capability as manager-in-training in terms of the nine Faculty capabilities. The portfolio encourages students to integrate their achievement in units of study with the gestalt of their life experience, and to report on their fitness for their chosen career.

We need to do more to achieve our existing goals well: we need curriculum 'integrity'

The external evaluator of the capability education program indicated areas where further work is needed (Squires, 2001). We will now give an account of the gap between where we are and where we would like to be. We will do so by considering current practice in terms of the challenge of curriculum 'integrity'. Bowden et al. (n.d.), in their account of capability development in universities of the Australian Technology Network, identify the conditions under which an institution might effectively cultivate capabilities in students. In their framework for action, they argue the need for 'curriculum integrity' which, as this passage shows, involves a number of dimensions:

> While the approach [the identification of generic capabilities] provides a valuable framework for curriculum review, it will have limited impact unless matched by an equal commitment from the teaching team and underpinned by a sound understanding of the issues. There is a danger that the current focus on generic capabilities could be viewed as a passing managerial fad that can be readily addressed in a superficial manner. A simple matrix of skill development across the curriculum, for example, gives the appearance of compliance without necessarily offering any challenge to traditional teaching and learning approaches. Generic capabilities might also be 'built on' to the curriculum content without any alteration to the learning environment. Such approaches deny the holistic nature of capability and inhibit the integration of personal qualities, skills and knowledge which is critical to effective professional practice.

> The course team must therefore make a commitment to reviewing the learning objectives, learning experiences, assessment and feedback strategies to ensure that they are linked in an explicit, coherent and meaningful way. This requires an engagement with the teaching and learning process, an ongoing dialogue about the development and assessment of generic capabilities, *and a commitment to curriculum integrity* [italics added].

The Macquarie Dictionary defines integrity as the state of being whole, or in sound, unimpaired or perfect condition. Bowden and colleagues do not offer a concise definition of integrity in the context of curriculum, so we shall condense and extend their thinking a little. For a curriculum to have integrity, at the very least,

- teaching staff need to be informed and committed, both to the intent of the curriculum and to its implementation
- curriculum development is accepted as being qualitatively different from grafting and pruning; with every significant addition or subtraction, the whole needs to be reviewed
- the various elements of the teaching, assessment, student support and administration subsystems support each other, and moreover, contribute to a larger synthesis.

According to this view, integrity is an emergent property of the whole curriculum, an efflorescence drawing on certain qualities of staff, the institutional understanding and culture of curriculum development, and the *coherence potential* of the curriculum's various functional components. We might think of this as the educational equivalent of a finely-tuned engine or unspoiled ecosystem. Integrity is what it takes – we agree with Bowden et al. – for a capability-enhanced curriculum to realise its potential. And we think the external reviewer of our capabilities program must have been working from a similar assumption; consider several of his final recommendations:

1   cease thinking about capabilities education as a trial and move into full institutionalisation

2   revisit the definition of learning (the constructivist model) adopted by Academic Board in 1998 and engage in broad analysis of the implications of that definition for policy and practices in the Faculty. In particular, the Faculty should conduct a review of teaching and learning that examines the role of elements such as the following in supporting the development of capability:
   a. staffing of units
   b. timetabling
   c. structure and functioning of action learning groups
   d. unit design and delivery
   e. collaborative pedagogies
   f. status of content knowledge
   g. assessment practices

3   set up a mechanism that will allow [the Faculty] to identify and provide professional development of staff to meet their needs as implementers of capabilities education

4   adopt across the Faculty, in both rhetoric and practice, an explicit stance of 'reinvention' of the Faculty, its programs and its pedagogies consistent with the central tenets of capabilities education

5   consider development of a parallel set of capabilities for a staff member of the Faculty, related to skills, attributes, values and commitments associated with effective teaching for capability, and incorporate these into criteria used by the Faculty in staff recruitment and promotion practices (Squires, 2001, pp. 22–3).

Integrity of curriculum requires that with every significant addition or subtraction, the whole needs to be reviewed. The above recommendations represent the application of this principle in the context of our Faculty curriculum.

Exploding 'authentic learning'

At the beginning of this paper we foreshadowed our intention of problematising the authentic learning construct. That was because we are beginning to see the need for a more 'textured' notion of authentic learning. While the literature properly draws attention to the need for

learning to be an appropriate preparation ground for professional practice, from our perspective, after three years of implementing the Faculty's capability program within an emergent constructivist mindset, we see the torchlight of authentic learning reaching out, far beyond considerations such as a graduate's fitness for a particular career.

How can our concept of authentic learning have texture? To explain, we will first explain our textured notion of capability. The eight undergraduate degree programs presently offered by the Faculty draw on a common pool of units of study which to a greater or lesser extent have a disciplinary focus. Thus, students are introduced to knowledge–skill sets that could be portrayed in terms of *disciplinary capability* (figure 2).
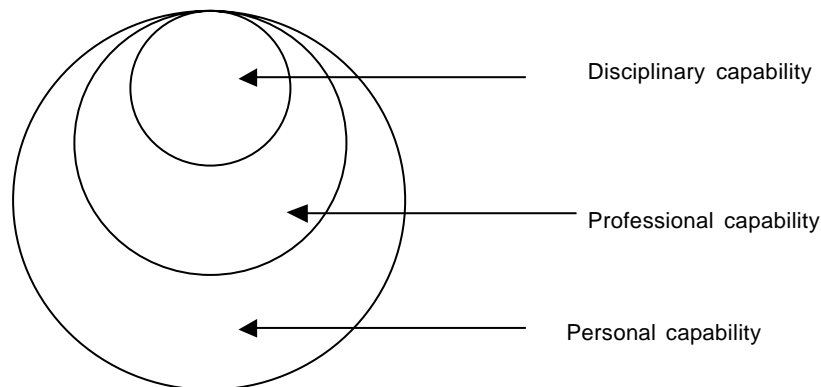
Figure 2. The nested domains of capability

Over time, both within the framework of their units of study, and particularly within the capability portfolio program, learners progressively discover how these discrete knowledge–skill sets converge into a larger, more integrated pool, one we might label as *professional capability*. Plumbing deeper again, in the dark waters of human being, stretched out across the whole of a lifetime, we all seek to further cultivate our individual ways of doing and being in the world – the attributes that define us as persons. *Personal capability* is a hypothetical stratum of experience in which all our acquired capabilities are integrated into the persons we take ourselves to be.

Our concept of individual capability therefore has texture in the sense that it holds a range of connotations. Capability development processes can have a narrow or broad band focus, depending on the depth at which we want to work. Working at any particular depth means embracing the domains subsumed within it. Just as human capability may be visualised as textured, so may the notion of authentic learning. However, we do not propose a stratified heuristic, as in the case of capability, but rather something thick, and fuzzy, so that we reserve the possibility of new connotations being added as time goes by. As a noble ideal, authentic learning resists being tightly defined, but rather, like the carrot on the stick, always remains just beyond reach. Hence also, 'textured'. Human capability, and authentic learning: these two notions seem right, even ripe for each other. If this thinking is seen to have merit, perhaps a fruitful approach would be to ask, what are the appropriate 'authentic learning' questions for teaching at each level of disciplinary, professional and personal capability?

We see our curriculum poised to engage with authentic learning at a deeper level, and this is where we hope to take the next phase of the curriculum debate within our Faculty. We wish to put the argument that learning is authentic to the extent that it enables us *to distinguish that which rings true to our experience of the world and is worthy of our trust, from that which is not*.

If we were to adopt this textured view of authentic learning, how would this affect the way we design curriculum? For one thing, we would recognise the importance of *creating critical moments in which students' global understanding, their worldviews and values, are confirmed or challenged*. We may well wonder where all this will take us.

Having reached the end of our case for a textured view of authentic learning, it simply remains to indicate what is likely to happen within our Faculty curriculum. The evaluator of the capability program observed that Faculty staff have different views about the capability program, and this has been detected by students as well (Squires, 2001). We fully expect to encounter a range of reactions to our case from among our colleagues. In situations of substantial philosophical pluralism, our earlier discussion about integrity of curriculum takes on special significance. While pluralism of worldviews is to be lauded in a community, is there a point at which differential support of a program can become subversive of the endeavour?

Debate within our Faculty will not necessarily address such a question. We cannot predict how the curriculum will evolve, but we know that the 'real world' doesn't enjoy any greater consensus on the big questions than we do. We may embrace this as an opportunity to steep the Faculty learning community – staff and students – into the uncertainty of these *supercomplex* times (McKenzie, 2000).

We are grateful for the opportunity, therefore, of airing our ideas before present company, and look forward to your constructive criticism.

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