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IMPLICATIONS FROM ENGESTRÖM'S CONCEPT OF EXPANSIVE LEARNING FOR ENRICHING LEARNING CULTURES IN VET

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In 1999 Yrjö Engeström gave a keynote address to this conference, elaborating his theory of Expansive Learning. This presentation will utilise Engeström's work to interrogate social, cultural, historical, and political perspectives on learning cultures in VET. It will draw upon the author's two decades of experience as a TAFE practitioner in vocational, industry, and community settings, as well as more recent experience as a researcher and educator of other VET and Adult Education practitioners.

This address will critique the impact of neoliberal policies upon vocational education, utilising mathematics/numeracy as a case study in a sector where adult and vocational students arguably need the highest quality educational experiences in order to benefit national economies and to enable their democratic participation in a globalised world. Highlighting aspects of the multi-voicedness, historicity, and contradictions, it will suggest possibilities for expansive learning as a means of enriching learning cultures in VET.

Activity Theory

Yrjö Engeström (1999a) describes Activity Theory as providing a worthy unit of analysis for enabling a theoretical account of the constitutive elements of an object-oriented, collective, and culturally mediated activity system in all its complex interactions and relationships. The minimum elements of this system include the object, subject, mediating artifacts (signs and tools), rules, community, and division of labour (Figure 1).

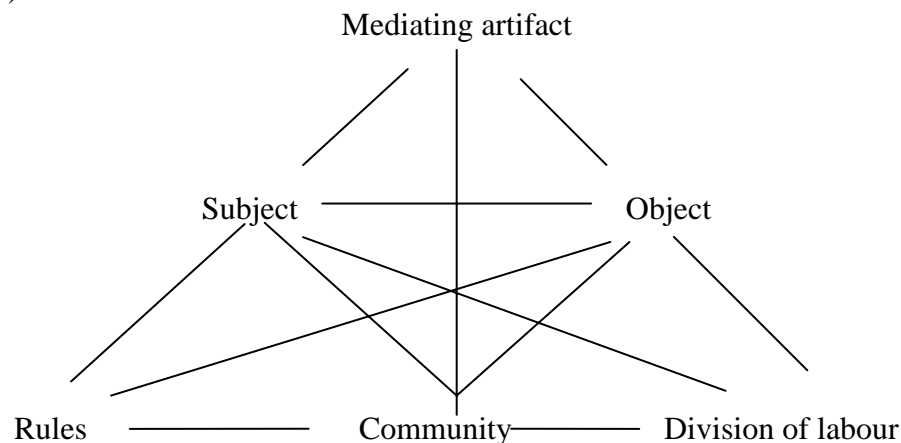


Figure 1. The basic mediational triangle expanded (after Engeström, 1987)

Engeström (1999a, p. 9) continues that: “the internal tensions and contradictions of such a system are the motive force of change and development.” Following Engeström (1987), there are primary contradictions between exchange and use values at each corner, as well as secondary contradictions between the corners, as exemplified by the strict hierarchical division of labour lagging behind the introduction of new technologies in the workplace. There is a tertiary contradiction of the introduction of a culturally more advanced form of the central activity. Finally, there are also contradictions between the central activity and its neighbour activities, namely: *object* activities, *instrument-producing* activities, *subject-producing* activities, and *rule-producing* activities. In the VET sector these activities may be broadly categorised respectively (see Figure 2) as: (a) expansive learning through education (e.g., in the fields of paid or unpaid employment, social & individual development), (b) the total curriculum (intended, implemented, attained/embodied), (c) the learner (bearing in mind historicity, multi-voicedness, etc.), and (d) policy (intended & implemented). This paper will interrogate the various neighbour activities found in the Australian VET sector from the perspective of identifying their tensions and contradictions.

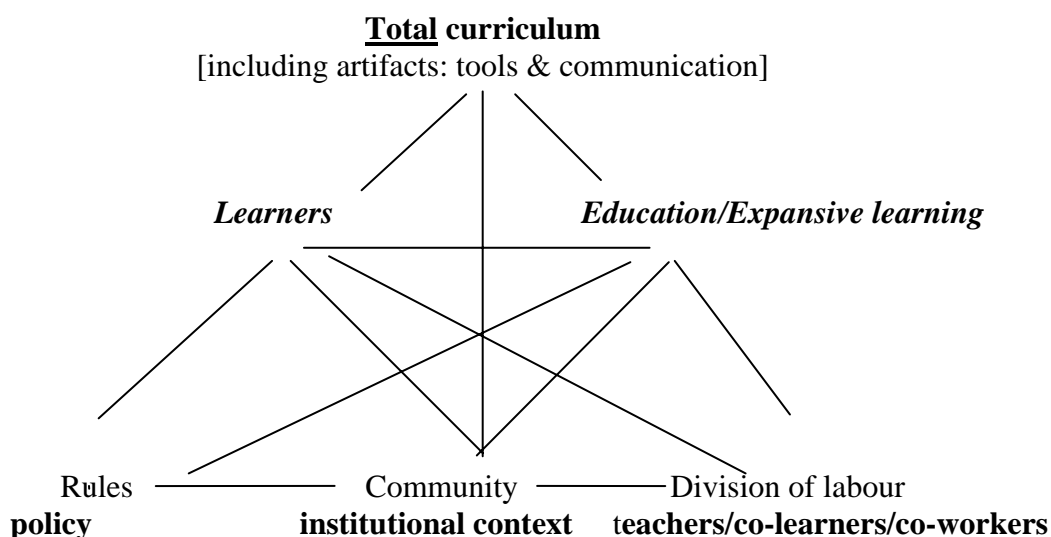


Figure 2. The central structure of activity for VET students

What is Understood by a Learning Culture?

Edwards, Ranson, and Strain (2002, pp. 532-533) recognise learning “as the transformation of understanding, identity and agency,” and identify it “as involving a developing awareness, which results in a growing understanding of customary practice, leading to reflexive social and self-questioning and the transformation of ‘habitus’”. They continue that the development of reflexivity, and the capacity to develop critical awareness of the assumptions that underlie practices “should engender the potential for individuals and communities to (en)counter the trajectories of their lives and to enhance their capabilities; not simply to adapt to the (dis)locations of the contemporary condition, but also to engage with them.”

Engeström (1987) distinguishes the original forms of human learning, where incidental learning consists of non-conscious *learning operations*, embedded in the daily participation in joint work, from the distinct, specialised forms that transmission of knowledge and experience brings about — conscious *learning actions*. He claims that

the essence of learning activity is production of objectively, societally new activity structures (including new objects, instruments, etc.) out of actions manifesting the inner contradictions of the preceding form of the activity in question. Learning activity is *mastery of expansion from actions to a new activity*. Engeström (1999b, p. 383) notes that “the expansive cycle begins with individual subjects questioning the accepted practice, and it gradually expands into a collective movement or institution.” It should be understood as the “construction and resolution of successively evolving tensions or contradictions in a complex system” (p. 384). The intention of this paper is to highlight the tensions and contradictions in VET in order to begin an expansive cycle.

Stenhouse (1967, quoted in Bishop 1988, p. 5) states: “Culture consists of a complex of shared understandings which serves as a medium through which individual human minds interact in communication with one another.” Engeström and others would add that account needs to be taken of mediating artifacts in the form of tools and/or signs, as well as of the socio-historical interactions of the broader community of practice. In the VET context, the term *learning culture* applies to the historically situated different forms and locations of post-compulsory education and training — for example, the neighbourhood setting, the TAFE classroom or workshop, the industry training room or worksite — and encompasses both face-to-face and online learning. The question arises: How can vocational education and training become an enriching learning activity, especially in the face of historical traditions of transmission of a fixed body of knowledge and/or practice? This is notwithstanding frequent references towards theories of constructivism which regularly appear in ANTA and NCVET publications, yet which fail to acknowledge that critical perspectives are needed to address the reality of knowledge conflict (Skovsmose 1994). How can learners become equipped to participate in expansive learning at work and elsewhere?

Curriculum: Instrument-Producing Activities

As noted above, the mediating artifact here is taken to be curriculum. Even though this is no longer central in Australian VET policy and practice, it nevertheless exists by default in any planned learning situation. In traditional education, Popkewitz (1997) sees curriculum as a system of social regulation, and it could be argued that much of VET curriculum is concerned with social regulation even if the mechanisms of documentation are less visible than in school education. Engeström (2001) sees learning in the workplace as a mechanism for creating shared meanings and curriculum as an ever-evolving solution to local crises. In other words, while school education is essentially about the reproduction of culture, vocational education — whether located in institutions or worksites — has the potential to foster creativity and competence in workplaces and other settings. But such creativity requires a broad knowledge base.

There are contradictions between the goals of the learners, the rhetoric of ‘best practice’ in industry, and the education delivered by Australian VET curricula. For example, Anderson (2003) observes the discrepancy between the qualifications delivered by VET and many learners’ actual needs and/or employment outcomes. Inspection of training packages and recommended support materials reveals little if any attempt to foster creativity, let alone critique of existing work or broader social practices. By contrast, Kaner and Stephenson (2001), drawing on activity theory, identify an alternative mode of curriculum work which takes account of cultural-historical activity, is shaped by the motives and conflicting interests of its various rules and communities, and which addresses the tensions and contradictions of its given historical moment. Among other

things, they propose increased visibility of current activity, and of the problems, difficulties, double binds, doubts, and aporias within current practice. One problematic issue is what kind of knowledges are called for in the 21st century?

New forms of knowledge production.

Gibbons et al. (1994) argue that the adequacy of traditional knowledge-producing institutions is being called into question. They assert that a transformation is taking place in the mode of knowledge production, heuristically contrasting what they call *Mode 1* traditional knowledge with *Mode 2* knowledge. In *Mode 2*, knowledge is produced in the context of application, addressing a much broader range of considerations than the norms of scientific research or commercial considerations. They describe it as transdisciplinary and identify four significant features:

1. it develops an evolving framework to guide problem solving, generated and sustained in the context of application;
2. it develops its own distinct theoretical structures, research methods and modes of practice;
3. the diffusion of results is accomplished initially in the process of production; and
4. its problem solving capability is dynamic.

Importantly, they claim that *Mode 2* supplements *Mode 1* knowledge production, rather than supplants it. Gibbons et al. (1994) assert that whole process is permeated by social accountability and that participants are more reflexive because research issues extend beyond scientific and technical problems, reflecting on the values implied. Unlike the *Mode 1* form of quality control, which they see as being defined “largely in terms of the criteria which reflect the intellectual interests and preoccupations of the discipline and its gatekeepers” (p. 8), other social, economic, or political interests may be included. How can vocational education curriculum address this new form of knowledge production in a meaningful way so as to enrich learning cultures?

In line with Engeström’s concept of expansive learning, Griffiths and Guile (2003) propose that learners in work experience programmes be supported to:

1. Understand and use the potential of subjects as conceptual tools for seeing the relationship between their workplace experience and their programmes of study as part of a whole.
2. Develop an intellectual basis for criticising existing work practices and taking responsibility for working with others to conceive, and implement where possible, alternatives.
3. Develop the capability of resituating existing knowledge and skill in new contexts as well as being able to contribute to the development of new knowledge, new social practices and new intellectual debates.
4. Become confident about crossing organisational boundaries or the boundaries between different, and often distributed, communities of practice.
5. Connect their knowledge to the knowledge of other specialists, whether in educational institutions, workplaces or the wider community.

(p. 59)

How might these be developed in institutional learning settings as well? Griffiths and Guile (p. 61) elaborate on one of the main characteristics of boundary crossing as involving a process of *horizontal development*. “Learners have to develop the capability to mediate between different forms of expertise and the demands of different contexts,

rather than simply bringing their accumulated vertical knowledge and skill to bear on the new situation.” (See also Beach 1999, Bernstein 1996). As Kanes (1997a, 1997b) and others have shown, this is clearly the case with respect to mathematical knowledge, and that the transfer metaphor is inadequate. Following the work of Engeström, Griffiths and Guile distinguish between different types of boundary crossing: (a) carrying out a known activity in a new context; (b) “individuals and groups using the problems which arise while undertaking a task as the basis for developing a new pattern of activity and new knowledge, polycontextual knowledge, in a new context” (p. 61). (See Engeström, Engeström, & Kärkkäinen 1995, for further discussion of polycontextuality.)

Mathematics in the workplace.

I wish to argue that in order for workers to participate meaningfully in the many and varied discourses of the workplace and in other social and civic problem solving and decision-making processes, they need a strong foundation in certain forms of mathematical thinking in order to be able to communicate across boundaries. In the last decade, this has often been described as *numeracy*, a concept which extends far beyond the popular notion of rote-learned number facts and skills (see Kanes 2003), and which is rarely to be found in most senior school curricula — even for those who would gain most in their preparation for working at the lower AQTF levels (Teese 2000) or for participation in civic and social life generally. The shift towards transdisciplinarity and heterogeneity in the academy and the workplace should be expected to inform vocational mathematics curriculum and teaching, even when it is subsumed under the title of numeracy into other modules. Yet, in the recent information kit for literacy and numeracy practitioners (ANTA 2000), there is scarcely a hint of the power of mathematical thinking or the need for mathematical communication in the exemplary materials. Mostly numeracy is present in name only — as an appendage of ‘literacy’.

Van Oers (2002, p. 25) notes that “mathematics is predominantly seen as the area of human thinking that provides the human being with a set of powerful symbolic tools for the reflective organization of reality.” Drawing on the genetic domains of Wertsch, he argues that mathematical modelling could be conceived of within at least four levels: the phylogenetic, the sociogenetic, the ontogenetic, and the microgenetic. Rather than being found only in the upper echelons of school and TAFE mathematics curricula (pre-CBT), he illustrates how representational practices are derived from and contribute to cultural practices at all levels, and are engaged in from an early age.

Cherns (1980, quoted in Engeström, 1987) observes that in contemporary workplaces “treatment becomes routine, diagnosis becomes the key”. These sentiments are echoed by NBEET/ESC (1996) who recognised the requirement for systems thinking as an integral part of information literacy in the recent trends towards cross-disciplinarity and teamwork. Drawing on the work of Salner (1986, cited in NBEET/ESC, 1996), it is context-oriented and context-dependent, and involves the following competencies:

- the ability to see parts/wholes in relationship to each other and to work dialectically with the relationship to clarify both similarities and differences. In effect, this means the ability to balance the processes of both analysis and synthesis;
- the ability to abstract complexity so that organising structures (visual, mathematical, conceptual) are revealed rather than imposed;

- the ability to balance flexibility and real world change against the conceptual need for stable system boundaries and parameters;
- command of multiple methods for problem solving as opposed to employing a limited range of algorithms to the widest variety of situations; and
- awareness that the map is not the territory, and the ability to act accordingly in the use of systems models.

(pp. 75-76)

These competencies can be readily identified with the projects of the institution of mathematics (FitzSimons 2002). The knowledge economy, widely accepted as the successor to the industrial economy, will demand a competency that links information literacy, systems thinking, and learning skills, according to NBEET/ESC. These will require, *inter alia*, “the ability to decode information in a variety of forms — written, statistical, graphic” (p. 77), together with critical evaluation of that information; Gibbons et al. (1994) even suggest that the notion of competence, in dealing with (re)arranging and connecting a plentiful supply of information, may come to define the meaning of ‘imaginative’. How might these be developed in a non-trivial manner — along with the sense of personal agency and repertoire of learning skills outlined above?

Learners: Subject-Producing Activities

Apart from macro-level data on students enrolled in the Australian VET sector, very little has been published about their personal needs and interests. The work of Damon Anderson is perhaps the best known for his championing of student rights, and his insightful analyses of policies that impinge directly upon students (see also Butler & Ferrier 2000). Clearly learning cultures comprise more than enrolled students and their teachers or trainers, especially in the workplace where co-workers are an important component of any learning situation, whether formalised or not. In other settings, family, friends, and co-learners may well be influential — although not necessarily in the most helpful or positive ways (as for co-workers and managers). Based upon my own professional teaching experience in community, TAFE and industry settings, it appears that many students have suffered poor quality teaching at some time in their school careers, and/or lack of opportunity to pursue their educational goals for reasons outside of their control (see FitzSimons & Godden 2000). Accordingly, the decision to enrol in a formal VET or ACFE course may present some degree of risk to personal identity and integrity — particularly if many years have passed since the last encounter with the institution of education; the situation is exacerbated if there is some degree of compulsion from government or employers. This is in addition to the opportunity cost of time and money foregone in the pursuit of ‘lifelong learning’ (see below).

Multi-voicedness of students. No-one is ‘just a student’. Teaching women returning to study in the ACFE sector, it was common to hear the ostensible reason of “being able to help my children” as their main reason for involvement, in mathematics courses at least. However, these women soon became engaged in the learning of mathematics for themselves. Others were explicit about making up for what was missed at an earlier stage in their lives.

Now that I am 20 years old I really do regret never trying to do maths. I am so scared of maths mainly because everyone makes it sound so hard. So I have come back to school to prove to myself that maths is not hard and no matter

how old or young you are you will always need some sort of mathematics knowledge; also I want to improve myself and my mind. (FitzSimons 1994, p. 17)

In this quotation, learning mathematics is seen as a personal challenge, a means of improving one's self, and of gaining a form of cultural capital (or legitimate knowledge) (Bourdieu 1991). However, it is well recognised that adult learners have many other interests and responsibilities in the social, civic, and economic roles they adopt, such as helping with the family business, caring for family members of all ages, membership of social and political groups, or voluntary work. When students miss a class or drop out there are often compelling reasons related to these other roles; sometimes it is a question of economic necessity for people employed on a casual basis, when the roster must take precedence or, for others, when a professional deadline must be met. For some the totality of non-study responsibilities simply becomes overwhelming.

Historicity of students. Adult and vocational education students in industrialised countries generally have a well-established history of education which has often seen them relegated to lower ranks of achievement than others in their school cohort. Apart from the myriad of possibilities which conspire to deny individuals or groups the opportunity to fully participate in optimal subject choices, it should also be considered that students may need additional support with developing strategies for effective learning. In other words, they need the highest quality of teaching to overcome the negative effects of previous learning experiences and to rebuild a sense of agency in any educational setting. Particularly (but not only) in the case of mathematics, attention must be paid to both cognitive and affective domains, to address issues such as mathematics anxiety and the ubiquitous tendency towards rote learning involving attempted rule memorisation (often with faulty recall) and the suspension of commonsense when interpreting calculator/computer generated data, not to mention blissful ignorance of graphical presentations — even if these are of direct personal relevance when used as a technology of management (e.g. Wedege 2000).

Contradictions. Our students are likely to have agency and responsibility in various other arenas — as workers, parents, members of the community, and so forth. But, on entering adult and vocational education it is possible that they become (once again) positioned as relative inferiors. Wedege (1999) studied the blocks and resistance of adults to the study of mathematics, and found that the habitus of adults who perceive themselves competent in life without the formal study of mathematics is likely to cause them to resist learning. Mathematics has not been perceived as relevant to their life project. In FitzSimons (2002) I illustrate the positioning of pharmaceutical manufacturing workers as educational infants through both content and pedagogy in recommended numeracy support materials in the food industry training package. I have not yet seen any numeracy materials which adopt a critical perspective on actual practices which leave workers disempowered in terms of dealing with, for example, incompetent management practices including the lack of proper and timely maintenance of essential equipment and the (at times) superficial regard for the occupational health and safety of workers. There is a distinct fairy-tale quality to many pseudo-contextualised numeracy resource materials which leave workers under-prepared to participate in expansive learning cultures in contemporary workplaces and elsewhere.

In summary, students in adult and vocational education need to be respected for their diversity of life experience as well as for the constraints that this complexity of experience might bring. In the past they have been constructed as apprentices to a ‘master’ or as disciples of specialist teachers, practical or theoretical, even as infants — all imply a one-way flow of knowledge. Yet, it is argued that the flow needs to be two-way. However, the expansive learning possibilities for learning cultures are constrained by many, often contradictory, policies which affect all participants to some extent. One example might be the negotiation of curriculum content by a worker and an employer who are clearly in an unequal power relation; another is the intended links to university courses from a basis of ungraded competency-based qualifications (see ANTA 2003).

Policy: Rule-Producing Activities

In an article based on her 1998 keynote address to this conference, Elaine Butler (2000) describes politically constructed ‘norms’ setting the parameters and blueprints for organisational governance in and through the Australian VET sector.

Institutional design in VET is based on a rational actor model, which privileges neo-liberal concepts of free markets and a small state; disembodied gender-neutral actors (industry, labour, worker/students and teachers/trainers and the technologies employed in pedagogical practices) within a fixed paradigm of personhood (productive economic contributors and willing/docile worker-learner-citizens), who, by choice, will respond according to the rules or hardware of the institutional requirements of VET. (p. 329)

Under these conditions policies are formulated and implemented, and sometimes evaluated. However, it is widely recognised that this process is neither linear nor rational, and that unintended consequences are also a reality. In FitzSimons (2002), drawing upon the theoretical foundation of the work of Basil Bernstein (1996), I outline the dramatic changes that have arisen in the sector over the last decade or so, at all levels — from micro- through meso- to macro-levels. I illustrate these through examples of recontextualising texts, the recontextualising field, and knowledge production and distribution, respectively. Clearly the introduction of competency-based training and, later, training packages, have had a major influence on learning cultures, along with massive changes to teachers’ working conditions and their overall sense of professionalism. Technologies of management, including the introduction of an Open Training Market and User Choice, along with the de-institutionalisation of education (with content reduced to that which is classed as ‘useful’ and ‘just-in-time’) and the closely prescribed ‘useful’ policy-related research agendas have contributed to major untested and largely untheorised shifts in what counts as vocational education. Several authors have highlighted the emphasis on performativity in learners, teachers, and researchers. The critical issue, from my perspective, is that policy documents and funded research rarely if ever get close to addressing the issues of what actually happens in the classroom or other learning cultures — between real learners and real teachers. The questions may be posed: “Where is the evidence that the reforms of the last decade have actually improved *educational* outcomes in VET?” and “Who is the client?” (Anderson, 1999).

In terms of lifelong learning, Bagnall (2000) highlights the nexus between the current discourse and economic determinism. He outlines three progressive sentiments expressing a central programmatic purpose for educational reform (individual,

democratic, & adaptive), and argues that the progressive, ethical, and liberatory nature of each is marginalised or excluded from the discourse. This article resonates with my own personal experience of 20 years teaching in different types of learning cultures in adult and vocational education in Australia. I have experienced the contradictions between rhetoric and practice which have had the effect of: (a) deskilling and disempowering students and teachers through a combination of reduced hours and jejune mathematics and statistics curricula, (b) reinforcing the counter-critical nature of the new vocationalism, and (c) focusing on the preparation of workers (potential or actual) to adapt to the cultural realities and ideologies of contemporary workplaces — to the exclusion of their other social and civic needs (see FitzSimons 2002).

Edwards and Usher (2001) and Edwards, Ranson, and Strain (2002) echo the thoughts of Bagnall (2000). In particular, Edwards and Usher identify the boundlessness of lifelong learning that, in theory, can never reach completion (see also Butler 2000). Edwards, Ranson, and Strain point out that the focus on learning rather than education or training cannot provide a basis for policy development as, unlike public educational institutions, neither the consumer nor the market are readily amenable to policy implementation. Thus, there are tensions and contradictions between policies and learners' interests, policies and teachers' professional interests, and between policies themselves.

The trend towards the de-institutionalisation of academic knowledge with the expansion in the potential supply of knowledge producers has serious implications for vocational education. ANTA documents suggest that it is possible to complete an award without ever setting foot in an educational institution. On the other hand, in-house industry training is often regarded as a potential cost; many reports from workplace trainers suggest that the economist prevails over the training manager. Possible consequences include unreasonably short start-up times for trainers and reduced or spasmodic time off-the-job for learners. Contradictions in workplace-based education arise between the economic requirements of task completion and the needs of the learner/workers. Another source of tensions and contradictions is to be found in policies which have marginalised teachers but expect them to take a leading role in implementing changes which have not been adequately justified on educational grounds.

Community Members: Teachers as Professionals

As Lassnigg (2002) observes, reforms in VET have often attributed a passive role to educators, but nevertheless they have been at the centre of contemporary reforms which themselves are strongly influenced by external interests. Teachers have been seen as a major obstacle to reform, and the weakening of their position has been a core element of neoliberal policy proposals — not only in Australia.

The Senate Standing Committee on Employment, Education and Training References Committee (1998) inquiry into the status of the Australian teaching profession asserts that characteristics of the concept of professionalism include:

- a strong motivation or calling
- the possession of a specialised body of knowledge and skills acquired during a long period of education and training
- control of standards, admission, career paths and disciplinary issues
- autonomy in organising and carrying out their work

- the need for ongoing exercise of professional judgement
- members accept and apply a professional code of practice. (p. 23)

In the Australian VET sector, apart from the possibility of the first, the others have all but disappeared or been severely curtailed, as has the *recognition* of need for exercise of professional judgement. Not only have control of entry through tertiary educational qualification and registration been removed or replaced by Certificate IV, but the status of VET teachers is uncertain in terms of: (a) public recognition and status (e.g. the tendency towards peripheral rather than core positioning in the workforce), (b) the lack of autonomy and workplace control, and (c) the tendency for sections of the business community to hold them (and their worker/students) simultaneously responsible for creating and for providing the solution to problems of economic malaise. In a recent draft of the national strategy for VET 2004-2010 (ANTA 2003) there is *no* mention of teachers (only the VET workforce), and just one reference to the quality of teaching and assessment — as a possible measure of performance. How could the crucial role of teachers in their collective contribution to an enriching learning culture be ignored?

One of the implications of Mode 2 knowledge production is that of quality control within the educational institution; this issue is particularly pertinent to vocational education in Australia, where quality accreditation issues are assuming increasing importance, impacting upon the daily work of teachers. In my experience, TAFE institutes operate within environments where they are “rewarded for establishing correct procedures and processes, not for the quantity and quality of their outputs” (Scott 1987, quoted in Hommen 2002, p. 62). In other words the slavish adherence of many institutes to the ISO model designed for quality control in production is totally inappropriate to the kinds of educational operation found in TAFE. For example, there is a contradiction between flexibility of delivery to meet students’ needs and having to submit a weekly schedule of content prior to even meeting them — in order to conform with ISO requirements. Yet students’ complaints about outdated printers appear to go unheeded.

Expansive Learning

As noted earlier, in the relatively long cycles of expansive learning, qualitative transformations, questioning and deviation from established norms sometimes escalate into a deliberate collective change effort. According to Engeström (2001 p. 137) “a full cycle of expansive transformation may be understood as a collaborative journey through *zone of proximal development* [ZPD] of the activity.” Or, as expressed in Ros Brennan’s (2000) insightful analysis of the tensions and contradictions in online learning, expansion from isolation to collaboration; learning from conversations and research.

How might alternative models of adult and vocational education be generated and enhanced to encourage the uptake of lifelong education in ways that benefit *all* stakeholders? Is it possible to value both cognitive and affective development? How might alternative, research-based, curricular and pedagogical practices be incorporated into curriculum and pedagogy (including online)? In the case of numeracy, or *mathemacy* (Skovsmose 1994), is it possible that *Critical Mathematics* may be a serious part of the intended and implemented curriculum? More broadly, is it or might it be possible to involve some or all of the stakeholder groups in a collective change effort based on critique, including judgement of what is to be learned, to serve their mutual needs? I believe that an expansive cycle, as described by Engeström, is a necessary component. That is, there needs to be open, respectful dialogue and boundary crossing between all activity groups, including policy makers, researchers, learners, and teachers.

Engeström's model of expansive learning allows for creativity and interaction arising from tensions and contradictions within and between activity systems. The ideal would be expansion from isolation to collaboration in the design and implementation of curriculum (taken in its broadest sense) and engagement by all stakeholders with this curriculum — not forgetting the importance of members of each group being able to operate within their individual ZPDs. Expansive Learning would emanate from conversations, analyses, and genuinely open research; and by *all* stakeholders, collaboratively reflecting on alternative shared models of planning and implementation. In this way, the entire VET learning community would be enriched.

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