Positioning the bar: Outcomes associated with successful completion of an enabling course

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My purpose in this paper is to provide a developmental framework for considering both the development of enabling program curricula and for the associated development of assessment regimes. The paper is based on two complementary theoretical positions. The first, following the work of Brophy (1999), emphasises the essential congruence between expected outcomes, curriculum and assessment. If we know what we want at the end of the process, this must inform us as to what our objectives need be, what our pedagogies should emphasise, and what our assessment should inform us. In other words, we need to begin with a model of what Brophy (1999) terms “curriculum alignment”, where the quality of learning objectives, the quality of learning processes and the quality of learning outcomes are clearly specified. The second aspect of the paper concerns the identification of what such quality may mean, both developmentally (in terms of progress within and between educational levels) and situationally in terms of identifying the intellectual properties
associated with successful completion of an enabling subject/program. This is where the notion of “positioning the bar” becomes a critical exercise for planning, implementing and assessing enabling courses. I describe a model of intellectual progress based upon Biggs and Collis’ (1982) SOLO taxonomy and develop this to incorporate both “academic” and “affective” factors influencing outcomes and their achievement.

In a recent conversation with a young tutor in our first year teacher education programme, the tutor commented on the writing abilities of her classes. What struck her the most was the clear advantage those students had who had entered the programme following a successful foundations course. They “seemed to get it” above those entering from traditional school achievement and other avenues. In “getting it” there was more than just the ability to cohesively put together the words – it was a sense of knowing what good writing at university should include and, importantly, what was required of the student to achieve this. Whilst one anecdote may not make a mountain of evidence, it may, as Gabi Salomon (personal communication) once put it, provide a “representative anecdote” illustrative of good educational principles and theory. In this instance, the anecdote points us to a successful outcome associated with the completion of a university-based enabling programme, one in which the foundations of undergraduate study have been firmly entrenched in the students as a consequence of the participation in the programme. To avoid the risk of drawing a long bow from a single anecdote, I refer also to our own published work on the academic experiences of graduates from the university Open Foundation Course (OFC) (Cantwell & Grayson, 2002; Cantwell, Archer & Bourke, 2001; Archer, Cantwell & Bourke, 1999). This research points to successful outcomes for graduating foundation students in two important dimensions: in academic terms through mastery of what is perceived by the lecturing staff
as attaining first year undergraduate level; and in affective terms in relation to both the reported personal development of the individual students and the motivational and epistemological changes that underlie this development.

So the notion of “getting it” may well give us an insight into the possibilities of foundations programmes. At a basic level, we may argue that an effective foundations curriculum will prepare students to undertake the next level of education. What does this mean? Certainly current educational theory will suggest that it is more than simply acquiring the content knowledge prerequisite to specific courses of undergraduate or other tertiary study. Brophy (1999), for example, has emphasised that curricula constructed independently of the broader social/educational outcomes desired risks being reduced to busy, content centred learning that is ultimately devoid of purpose. Foundations courses must, then, go beyond any simple notion of “training” for university study to incorporate a deeper socio-educational sense. By way of illustration, we might refer to the comments of three students interviewed by Cantwell & Mulhern (1997) as they ended the first semester of their enabling studies:

Student 1: It (Sociology) has changed my attitudes to a lot of things, the way I look at the world and really had made me think. The ways humans behave and the reasons for that behaviour are clearer and you are more tolerant I think of other people’s situations. This course has really got me thinking about a lot of important issues

Student 2: It has really helped me get out of a rut that I have been in for a few years. It has activated my mind and even now before I have finished I feel there are so many more opportunities available that perhaps there were before but I couldn’t see them. I am confident I think because I am enjoying learning – something that certainly didn’t happen at school.

Student 3: It had opened my eyes a lot. I can see why my husband treats me the way he does at times and why my kids
do what they do, and not only that, by society generally. It has really got me thinking.

One of the remarkable educative outcomes associated with these comments is that the students appear to be internalising their learning in a form that goes well beyond just saying “I have learned a lot”. Each student reports a fundamental change in the way they think. They are gaining what Biggs and Collis (1989) refer to as a “Formal -1” view of the world, one in which their educational experience has challenged them to think about some fundamental questions well beyond the constraints of the specific curricula. In other words the experience of the foundations course has resulted not only in gaining certain content knowledge, but has also resulted in the beginnings of fundamental metacognitive and affective development. The students are beginning to think differently about the nature of knowledge and learning and about themselves as learners – they have begun to cross over to a higher order way of thinking, one which implies a developing lens that allows them to subsequently see the “why” and the “when” as well as the “how” and the “what”. In short, they are in the process of “getting it”.

“Getting it”, then, may be seen as a process of transition. It reflects a shifting capacity on the part of the learner to conceptualise the nature of learning problems and to provide strategic options in meeting and surpassing these problems. At a certain point in the transition process, we might suggest that the student has achieved a critical level of competence that we deem appropriate to undertake undergraduate level study. Whilst not necessarily explicit in what we do, there is nonetheless an implicit recognition that at the completion of the enabling course the student either is, or is not, at a point where successful higher level study is a reasonable possibility. In the title to this paper, I refer to this phenomenon as “positioning the bar” – a recognition, in however imprecise terms, that there are qualities of student outcome from an enabling programme that indicate a readiness to move on to the next level.
Three elements appear to me to be important in determining the appropriateness of an enabling or foundations course (see Figure 1). First, such courses need to be goal directed – they should have a defined quality of end point that is appropriate to the transition to the next level of education. There is, therefore, an underlying developmental sense to the programme. Second, the curriculum should be reflective of the broader goals of the programme – what is planned, what is taught and what is assessed should represent a coherent application of the broad developmental goals of the programme. Third, the pedagogy of the programme should recognise both the active role of the learner and the complexities of the learning process. The course should accommodate, therefore, the cognitive, metacognitive and affective development of the learner. I now expand upon each of these elements.

\[ Figure 1: \ An \ integrated \ model \ of \ course \ development \]

**1. The developmental domain**

I have already noted that there is a relatively unambiguous goal associated with both the provision of enabling courses and participation in those courses. That goal is generally to matriculate
to the next level of education. For present purposes I am going to assume that the “next level” is undergraduate study. Two questions emerge here – what does it mean to be “ready” for undergraduate study, and what assumptions can we make about entry into the enabling programme? From a developmental perspective, Biggs and Collis (1989) identify systematic changes in the way in which individuals engage with learning as a consequence of both development and education (see Table 1). These developmental changes are seen as more than purely adding to what is known – they represent fundamental changes in the way in which learning is conceptualised and enacted. That is, development is not just about quantitative change (knowing more) – there is more fundamentally a qualitative change in the way in which world views are represented (knowing differently). Developmental change, therefore, is primarily about the acquisition of different modalities of thinking. For example, Biggs and Collis (1989) suggest that children begin to logically operate on the real world from about age 6. With increasing complexity, an understanding of the world they live in is built upon, culminating by mid adolescence in the capacity to generalise about known aspects in a closed, pseudo-theorising way – a form of “concrete-generalising”. From about the age of 16, students begin to question “how things are” and begin hypothesising about “how things might be” (p156). From its simplest forms in senior secondary school, this mode of questioning and theorising is argued to reach its peak at the end of undergraduate study, where the student is said to “understand, or have a workable grasp of, an entire discipline” (p157). Biggs and Collis describe this modality of thinking as Formal-1 thought, and see it as representative of both undergraduate thinking and most professional practice. The transition in modality of thinking from undergraduate to postgraduate levels is described by Biggs and Collis (1989) as a shift from a Formal–1 to a Formal–2 modality of thought. Whilst beyond the purview of this paper, the Formal-2 represents a capacity to theorise propositionally beyond the given. As such, it is a modality of thought generally restricted to postgraduate study and research.
Table 1: Developmental change underlying curriculum planning
(Biggs & Collis, 1989)

<table>
<thead>
<tr>
<th>Descriptor</th>
<th>Age onset</th>
<th>Modality of reasoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensori-motor</td>
<td>From birth</td>
<td>Based on refinement of motor skills. Knowledge acquired tacitly – reflected in &quot;knowing how&quot; in skilled motor performance</td>
</tr>
<tr>
<td>Ikonic</td>
<td>Around 18 months on</td>
<td>Internalising action through symbolic representation. Basis of intuitive knowledge. Modality of reasoning in pre-school and infants settings.</td>
</tr>
<tr>
<td>Concrete symbolic</td>
<td>Around 6 years on</td>
<td>Linking of symbolic systems to the concrete world in logical and ordered way. Basic modality of reasoning for primary and junior secondary schooling. Associated with the construction of declarative knowledge</td>
</tr>
<tr>
<td>Formal-1</td>
<td>Around 16 years on</td>
<td>Beginning of theorising about the concrete world – questioning and hypothesising about the given. Allows for systemic thinking that is theoretical in nature. Should consolidate by the end of undergraduate study and forms the modality of thinking in professional practice</td>
</tr>
<tr>
<td>Formal-2</td>
<td>Around 20 years on</td>
<td>Questioning the bounds of conventional bounds of theory and practice, and extending those boundaries. Essentially reduces theory to its basic propositional level as the basis for future theory development. Underlies postgraduate study.</td>
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How may we use Biggs and Collis' (1989) developmental model to "position the bar" for an enabling programme? Here we return to the fundamental aim of enabling courses: to facilitate "readiness" for undergraduate or other tertiary study. According to Biggs and Collis' (1989) model (see Figure 2), this assumes that by the completion of an enabling course, students should be able to reason about phenomena studied in a manner that at least implies concrete generalisation abilities ("I understand these topics in social theory") if not some capacity to reason in a formal-1 mode ("I'm beginning to get an idea of what social theory is about").

We may exemplify this shift in "lens" – or at least the beginnings of this – from the observation of one of Cantwell & Mulhearn's (1997) subjects in relation to feedback from writing:

Figure 2: "Positioning the bar" – A developmental curriculum model (adapted from Biggs & Collis, 1989)

... the History assignment I just got back (I got six out of ten)
- I mean I probably should have spent more time on it than
I did but the comment I got was that I should be stating my opinion. But I did an essay writing course before starting, and one of the things they said in that course was that you should not let your own opinion come into it. I am finding this really hard, particularly in history – I mean if I read something then to me that is fact and it shouldn’t really matter what my measly opinion is.

What this represents is a beginning of awareness that the curriculum demands of the enabling course require some kind of rethinking of what the concept of “knowing” implies. In this instance, there is a sense of dissonance between the student’s notion that there is objectively verifiable information that should be “given back” to the authority (lecturer) and the implied notion that the student must construct a verifiable position about that information for consideration by the lecturer. That is, a distinction between “opinion” and “argument”. The student’s conception of the task was typically concrete symbolic in mode. The lecturer’s conception, however, sought an indication of Formal-1 reasoning. The student has not yet picked up the distinction, but its seeds have been sown.

How then does this desired development occur? We may frame modal development in much the same way as the development of expertise in any field (see Figure 3). We enter a new domain with only rudimentary knowledge. Our focus begins as one of acquiring a basic knowledge base. Our lens at this point is primarily sequence – knowing “what” in a relatively undifferentiated form. For children, this is based in the concept of narrative. In SOLO\(^2\) terms, this is a unistructural representation. As we acquire more knowledge, so we

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1 SOLO is an acronym for the Structure of the Observed Learning Outcome, an approach to assessment developed by Biggs and Collis (1982). It is based on a five level taxonomy of increasing structural complexity and abstraction: Prestructural and extended abstract responses are considered blow and beyond the target mode respectively; unistructural, multistructural and relational responses represent different levels of complexity within the target mode.
begin to be able to see identifiable relationships between various elements of information. These commonalities enable us to categorise knowledge – all to do with maths is placed in the maths category; all to do with history is placed in the history category. The narrative is now based upon sequences of categories which remain closed and constrained to the concrete, but which are increasingly complex internally. This is typically multistructural on SOLO criteria. There is a point in the categorisation process where the discreetness of categories becomes perceptively flawed. Interrelationships between categories become increasingly evident to a point where what is understood represents a generalisation from the knowledge rather than the knowledge itself. This represents a shift from factual learning to increasingly conceptual learning. Such concepts are less bound by immediate context and, whilst still tied to the known, are of a greater degree of generality. In SOLO terms, this represents a relational lens.

![Diagram](image)

**Figure 3:** Within modality change – SOLO equivalence
Typically, secondary schooling operates within the concrete-symbolic mode. Amongst junior secondary students (up to perhaps Year 10), outcomes are rarely sought beyond the multistructural level within that mode. It is not until senior secondary schooling that an expectation of relational outcomes within the concrete-symbolic mode is expected (e.g. HSC exam). By way of illustration, I once asked a Year 11 British history class for an explanation of the term “laissez faire”. No student was able to respond. I then asked the class if anyone also studied economics, to which a significant number raised their hand. “When you are in economics”, I asked, “What does laissez-faire mean?” All the economics students were able to give me the appropriate answer. When questioned why this answer was not offered earlier, they appeared to find it unusual that a concept in one subject could have any relevance to a concept in another subject. Again, we are able to see a modality difference where the lens utilised by the students was one of segmenting knowledge into discrete categories (multistructural), while the task required integration across categories to allow for some form of conceptual integration (relational).

What then is the implication for our basic question of positioning the bar in foundations courses? Put in terms of the Biggs and Collis (1989) model, we expect as preparation for tertiary (university) study, an outcome of a relational lens within a concrete-symbolic mode. In other words, we expect our students to be able to conceptualise about the material learned in a form that is more generalised and more abstract than the form in which it was presented, but which nonetheless remains tied to the context from which it was constructed. As Biggs and Collis (1989) note, there may be some evidence of Formal-1 reasoning in student outcomes. That is, some students may well be beginning to theorise rather than simply generalise about the learning domains. This however is “beyond the bar” and should be viewed as “icing” on the pedagogical cake rather than as an explicit goal.
There is, of course, a major pedagogical issue associated with defining the bar in foundations courses. By their very nature and design, these courses attract students from extremely varied backgrounds. What becomes an issue is the varied “developmental distance” that students may be required to travel to reach the bar, based upon the level of prior educational experience. A student whose conceptions of knowledge and knowing, for example, were last formally tested in a Year 8 or Year 9 level environment, may approach the foundations curriculum with a significantly less developmentally sophisticated lens than the student who has already completed senior high school. This is not an “ability” issue in the traditional or popular sense. Rather, it is an acknowledgment of a point commonly made by developmentalists that higher modalities of reasoning are almost always the product of formal education. This has been, for example, a major issue in both the UK (e.g. Trowler, 1996) and Australia (e.g. Cantwell & Scevak, 2004) in relation to university entrance via recognition of prior industrial experience. In short, students do not begin foundations courses on the basis of a level playing field. The implications of this for both curricula and student learning are discussed later.

Let me then summarise the developmental parameters within which foundations programmes must operate. There are clearly definable goals of foundations courses associated with “readiness” to undertake the targeted higher level of education. In identifying this goal, I have suggested that we need to specify what attributes of student performance will indicate to us the attainment of “readiness”. That is, we need to position a bar between preparation and readiness. I have attempted, through reference to Biggs and Collis’ (1989) developmental curriculum model to suggest that there is a quality or “modality” of thinking that is assumed to exist upon entry to undergraduate study – one which is built upon and transformed with the experience of undergraduate study. Moreover, I have also suggested that the attainment of this level of readiness is a task of
differential difficulty for participating foundations students, for the variance in prior educational experience forces us to acknowledge that the necessary intellectual journey for each student in reaching the bar is uniquely different.

2. The curriculum domain

Consider the following phrases from the student comments cited above: "It has changed my attitudes", "It has activated my mind", "It has opened my eyes". What kind of curriculum is capable of producing such change? Brophy (1999) suggests one that has intellectuality at its core. He has been critical of educational practices that have prioritised content over thinking, quantity over quality. In his insightful summary of good teaching practices, Brophy (1999) makes the following observation:

Research indicates that educational policy-makers, textbook publishers and teachers often become so focused on content coverage or learning activities that they lose sight of the larger purposes and goals that are supposed to guide curriculum planning. Teachers typically plan by concentrating on the content they intend to cover and the steps involved in the activities their students will carry out, without giving much thought to the goals or intended outcomes of the instruction. Textbook publishers, in response to pressure from special interest groups, tend to keep expanding their content coverage. As a result, too many topics are covered in not enough depth; content exposition often lacks coherence and is cluttered with insertions; skills are taught separately from knowledge content rather than integrated with it; and in general, neither the students' texts nor the questions and activities suggested in the teachers' manuals are structured around powerful ideas connected to important goals. (p13)

Brophy's (1999) critique is that too often curricula are marked by an emphasis on quantity above quality, on "busy-ness" above thinking.
Brophy emphasizes the role of intellectuality in determining the structure and form of curriculum. In his model, the central point of curriculum is the facilitation of profound intellectual change, of taking students through a process of significant and measurable qualitative development. Logically, then, the centerpiece of good curriculum lies in the coherence generated by the use of powerful and embracing ideas as the focal point of curriculum planning. All other elements of curricula are subordinate to this – "content clusters, instructional methods, learning activities and assessment tools" (p13) must reflect rather than determine the course and direction of curriculum. This is the basis of what Brophy terms "curriculum alignment": that there is a clear conception of the goals of the curriculum, that such goals are centered upon non-trivial and profound ideas and that the constituent elements of the curriculum are reflective of these goals.

The emphasis given by Brophy to the underlying intellectuality of good curricula acts as a reminder of the developmental goals associated with all foundations studies. Ultimately, enabling courses aim to raise the level of intellectuality with which the students engage their learning to a level appropriate to undertaking undergraduate level study. In the previous section I characterized this as a demonstrated capacity to think relationally within a concrete-symbolic mode that is generally not attained until the completion of secondary schooling. Thus for students in enabling programs, there is a Vygotskian-like "zone of proximal development" which they

2 The term "intellectuality" may be seen in a broad sense as referring to a disposition on the part of individuals to apply cognitive skills in deeper, meaning-centred ways. Intellectuality is not about the acquisition of complex abilities – rather it is about the disposition to use these (see Perkins, Tishman, Ritchhart, Donis & Andrade, 2000; Ritchhart, 2001). 

3 The term "Zone of Proximal Development" comes from the work of the Russian psychologist Vygotsky. It refers to the hypothetical distance between the observable level of performance of an individual unassisted, and the potential level of performance where appropriate scaffolding or assistance is provided (see for example ten Cate, Snell, Mann & Vermunt, 2004).
must progress. The implications of this for students will be discussed in the next section. Meanwhile, recognizing that intellectual change underlies the rationale of enabling courses, there are also significant curriculum implications. Following Brophy's notion of an "aligned" curriculum within which all curriculum components (objectives, pedagogy and assessment) are derivative of the broader intellectual purpose, it becomes critical for the curriculum itself to become primarily qualitative rather than quantitative in emphasis. It is not sufficient to organize curriculum around isolated content and skill acquisition. As Brophy has emphasized, what allows for coherence in a curriculum is not the content and skills alone, but the fusion of the two through the medium of powerful new ideas. Hence the quotations at the beginning of this section: the openness to new ways of thinking, the changes of attitude and the activation of the mind. These kinds of changes are prerequisite to profound intellectual development. At the same time, attitude alone can yield highly vacuous outcomes. Intellectual change implies not only a changed attitude, but also the capacity to ground that attitudinal change in a well-developed and richer knowledge base.

Figure 4: The central role of assessment in developing curriculum alignment
Central to our understanding of curriculum outcomes is the nature of the assessment regime. I have argued elsewhere (Cantwell & Jeanneret, 2004) that good assessment should perform three functions: it should measure the quality of learning outcomes, it should be reflective of the quality of processes producing that outcome, and it should be informative of the objectives underlying that outcome (see Figure 4). If the primary outcome sought is the presence of a certain modality of thinking (in this case, relational thinking within the concrete-symbolic mode), how might this be reflected in assessment?

Basic to good assessment is the recognition that meaning is multi-layered. Consider, for example, a simple child’s story. A story can be understood or comprehended at three levels: the level of detail where the exact information is reproduced; at the level of main ideas where details coalesce into a sequence of main events; and the level of themes where the essential point of the story is identified. Not surprisingly, reading a research article also involves the same levels. There are several implications to the concept of multi-layered meanings for our understanding of curriculum more generally. If we examine Figure 5 below, the key point to note is the role of the individual in constructing meaning. If we let the unshaded area within the triangle represent the “given” information, and the shaded area outside the triangle represented the “constructed” information, then there is a clear progression in constructive activity on the part of the individual learner as higher levels of meaning are generated. As an assessment principle, then, the shaded area outside of the triangle represents the student’s constructed understanding of the material whilst the unshaded area represents information reproduced by the student. We may assume then that the higher the level of analysis required in the particular assessment task, the greater the proportion of activity devoted to the construction of meaning. Conversely, the lower the level of analysis required in the assessment task, the lower the proportion of activity devoted to the
construction of meaning. Depending on the bias of our assessment regimes, our assessment may inform us of either the quality of student learning (as indicated by the depth of constructed meaning) or simply the quantity of student learning (as indicated by the amount of reproduced information). Given the stated curriculum goal of facilitating intellectual development through the alignment of curriculum around powerful ideas, it makes sense to gear assessment towards a qualitative outcome. By implication, then, providing closed assessment tasks or highly prescriptive assessment tasks will limit the student activity to the level of activity imposed by the task. Good assessment practice, then, will avoid artificial ceilings that limit the degree of intellectuality that may be displayed.

Figure 5: A multi-layered model of meaning generation

There is an \( \text{a priori} \) relationship between assessment outcomes and the necessary inferences that may be drawn about underlying processes yielding that outcome. This may be expressed in terms of SOLO equivalence (see Figure 6). If my level of constructive activity in
completing the task is essentially focused on “detailed” information, my processing is rarely likely to exceed “reproduction”. This translates to a unistructural level of outcome. If my level of constructive activity in completing the task is essentially focused on “main ideas”, my processing is likely to bias towards discrete categories. This translates to a multistructural level of outcome. If my constructive activity is essentially “thematic” in focus, then my processing is likely to have reflected a need to integrate. This translates to a relational level of outcome. Assuming, then, that the modality of the assessment task is appropriate (concrete-symbolic mode) our goal becomes one of facilitating relational outcomes as the developmental point underlying successful enabling curricula.

Figure 6: From activity to outcome: an integrated assessment model

In summary, we have thus far made two critical points relating to the quality of enabling programmes. The first was to recognise the developmental context within which enabling courses operate. It was argued that the “bar” represents a point of readiness to engage tertiary level education – in this instance a capacity to reason at the
higher end of what Biggs and Collis (1989) refer to as a concrete-symbolic mode of reasoning. In our discussion of the curriculum implications of that developmental framework, I have emphasised the critical role of Brophy’s principle of curriculum alignment – the centring of curriculum attributes around powerful ideas. In this instance, the powerful pedagogical idea is that of intellectual change. In acknowledging this curriculum principle, I have emphasised the importance of how assessment regimes are conceptualised and put into place. Where assessment recognises the possibility of different levels of constructive activity yielding qualitatively different outcomes, certain inferences may then be drawn regarding the state of readiness of individual students (across domains) for higher level study. To be specific, we would expect assessment to allow recognition of a relational level of outcome within a concrete-symbolic mode of reasoning.

I also made note earlier of the variation within any enabling student cohort in terms of prior educational achievements at the point of entry into the enabling courses. The effect of this differentiation is to acknowledge that the enabling journeys undertaken by each individual student will vary according to not only prior educational background but also in relation to more general life experiences. So whilst we may well position our bar at a defensible level of intellectual outcome, and whilst we may put in place a curriculum in which all attributes are geared towards facilitating intellectual change, there still remains one element of the process to understand – that is the individual stories of engagement that underlie the enabling experience.

3. The learner domain

How an individual student engages with the learning task confronting him or her is more than a matter of simple skills. Learning by its nature is a complex process. Perhaps the most understated and unrecognised attribute of learning process is its most simple feature:
learning is hard. By its very nature, learning involves a journey from the known to the unknown. Our reference point for engaging non-trivial and difficult learning – the unknown – is, then, our own experience. For most individuals, most of the time, our behaviours are governed by a complex web of interactions between current and past behaviours, beliefs and experiences. Knowing what we have done in the past is a good predictor of what we might do in the present and future. Knowing how we did those things is a good predictor of how we might do current and future things. Knowing how we felt about doing those things in the past is a good predictor of how we feel about doing those things again. These reflections provide the basis for relatively enduring “mental models” (Vermunt, 1998) that act as internal “road maps” (Cantwell, 2001) guiding us through problematic situations. Such mental models may refer to our motivations, epistemologies, strategy repertoires, and to more explicitly affective factors such as our self concept, self esteem and self-efficacy.

In characterising this complexity I make use of an amalgamated model of learning derived from my own work (Cantwell, 2001; Jeanneret & Cantwell, 2002) and the work of Jan Vermunt (e.g. Vermunt, 1998; ten Cate, Snell, Mann & Vermunt, 2004). This model emphasises the interplay between three internal domains in learning (see Figure 7): the cognitive domain, the metacognitive domain and the affective domain. What happens on the ground in real time learning (the cognitive domain), for example, is driven by the intentions and planning undertaken by the learner as tasks are engaged (the sub-domain of metacognitive regulation). At the same time, intention formation and planning does not occur in a vacuum: not only are there a plethora of external factors at play (context, environment, task, and so forth) but there are also a crucial array of internal factors at work providing an interpretation of how these external demands are to be met. These internal factors include both theories and judgements of self as learner (affective domain) and constructed theories and judgements about learning (sub-domain of
metacognitive disposition). In interaction, these provide the internal parameters for establishing the planning and processing activity. These are now discussed in relation to the enabling experience.

![Diagram](image)

**Figure 7:** Internal domains in student learning (adapted from Cantwell, 2001; Cantwell & Jeanneret, 2004; ten Cate, Snell, Mann & Vermunt, 2004)

The influence of affect

Stepping into the intellectual “unknown” has several implications. One is that any step into the unknown involves risk taking. A consequence of that step is a preparedness to place one’s private and public “neck” on the line. There is, then, significant emotional investment in the decision to enrol and persist. Moreover, how we cope with the emotional demands of that decision is itself significantly a product of our own emotional or affective history. All individuals bring some form of “baggage” to the new challenges. We have all made strong and relatively enduring self-judgements over time that influence how we interpret and act upon current affective demands. As a principle, we can suggest that a history of positive affect is likely, in turn, to provide positive self-judgements in relation to current and
future demands. Conversely, a history of negative affect is likely to provide negative self-judgements in relation to current and future demands. The quality of affect brought to the enabling table, then, is likely to have significant implications for the way in which individuals respond to the intellectual demands of the enabling journey.

![Diagram of Affective Domain](image)

**Figure 8: Components of the affective domain**

**Self-concept:** The affective domain includes three components that in interaction will determine the emotional state of mind that learners bring to the task (see Figure 8). The first of these components is self-concept: the “idea” of self that we use as a descriptor of our past and current persona. We do of course hold to multiple concepts reflective of our complex lives, and particularly for mature aged students, there can be significant dissonance between the concept of the self that one enters an enabling programme with, and the one that will underlie successful engagement with the programme. We have characterised this dissonance in previous studies in terms of a sense of discomfort with existing life circumstances and a desire, however vaguely expressed, to achieve some kind of identity change (Archer, Cantwell & Bourke, 1997; Cantwell & Mulhearn, 1997). Again, from Cantwell and Mulhearn’s (1997) data:

I have always worked in factories, offices or as a cleaner and I have generally wanted to be something a little better so I could
have more confidence in myself ... Really it's a self-recognition thing for me. I want to prove it to myself.

I have got my Year 10 Certificate and failed everything. I don't show it to many people. I probably could have gone further. It wasn't that I didn't want to; it was because I was always made to feel too dumb because my sisters did so much better than me. So I am here to prove to myself that I am not stupid.

There are two relevant aspects to the way these women have characterized or conceptualized themselves. In both cases, and this may be seen as quite typical of female enabling students (e.g. Archer, Cantwell & Bourke, 1997; Ancis & Phillips, 1996), there is a strong sense of dissonance between what may be termed the perceived current and the possible selves. In the first instance, the dissatisfaction is with the descriptor of self as factory worker — "... I have generally wanted something better .... Really, it's a self-recognition thing for me". For the second case, the dissonance lies in the increasing rejection of a negative affective memory of schooling and the underlying sense that more was possible: "I probably could have gone further. It wasn't that I didn't want to". It is of interest that both women refer to a need "prove" themselves. Bandura (1997) has spoken of the critical role of positive goals in achieving fundamental change — the notion that one goes to something, not just from something. For these women, the determination appears to be to one of "going from" rather than positive goals of "going to". Certainly data reported by Archer, Cantwell and Bourke (1997) indicated amongst successful enabling graduates, the motivation to reject the past was supplanted by more positive conceptions of self-as-learner with more clearly defined educational and career outcomes in mind. However, I would stress that this transition is by no means guaranteed within the enabling experience, and the self concept driving these students may often remain quite fragile. There are of course a number of instructional processes available to support this aspect of student affect, but I will return to these in my concluding comments.
Self-esteem: The second of the three affective domains is self-esteem. This refers to the judgments individuals place on their conceptualization of self. The judgment is both current and historic: how I felt about myself in the past is a good predictor of how I feel about myself now. A personal history of negativity, then, will likely place an affective barrier to self-concept development in the future. Where that self-concept is historically fragile, self-effacing judgments may sometimes produce quite debilitating outcomes in terms of commitment to challenging tasks and situations. Self-esteem judgments are heavily entrenched in affective belief. As such they may retain a powerful non-rational element that is extremely resilient to change and extremely sensitive to non-rational reinforcement (although we may note that successful life experiences tend to moderate earlier negative experiences, with a consequence of opening the individual to more positive thoughts in maturity). In the first example cited below, the woman concerned reports a long history of negative social and interpersonal feedback. Encoded as non-rational affect, such information becomes internalized as "given" and relatively stable:

I have been brought up in a situation where I have been told that I am dumber, which knocked a bit of the confidence out of me. My husband, whenever he is wrong, always seems to be able to come up with a logical reason why he didn't have the right answer and it usually involves anything else but his intelligence. I mean, it is always someone else's fault. But when I am proved wrong it really affects my confidence, and that changes the way I view my ability and so I won't be as keen next time to air my opinion and confirm people's suspicion of me as an idiot.

Given the fragility of the underlying self-concept in this example, any "attack" on self-esteem has the potential to limit the depth of engagement. In an environment where the bar is likely to be positioned well above the habitual operating level of the student, fear of failure or of public humiliation can have a debilitating effect. This
is exemplified in the second example, where sensitivity to criticism yields a likely over-interpretation of negative feedback ("thrown back in my face") with consequent withdrawal from the activity:

I contributed one day and got a really negative response from the lecturer. Now I had done considerable previous study in this subject and so I felt I knew what I was talking about, but it was thrown back in my face by the lecturer in front of everyone so now I am very careful about what I say if I say anything at all.

Self-efficacy: This concept refers to a particular form of self-judgment that emerges from an interaction between self-concept, self-esteem and the individual's appraisal of the specific learning environment and task being confronted. Self-efficacy refers to one's sense of competence in meeting a particularly challenging task. The first example from Cantwell and Mulhearn's (1997) study below illustrates the strength of the affective barrier a negative efficacy judgement may produce. In this instance, the student's negative self evaluation has set up clear expectations of failure, with a potential consequence that the associated anxiety will produce a self-fulfilling prophecy:

I haven't done a test yet, but our lecturer gave us a sample test sheet the other day and I nearly cried - I thought there is no way that I am going to get through this.

Again, we may note that the interpretation of the task constructed by the student may be entirely flawed. She may indeed have the knowledge and strategies appropriate to passing this upcoming test, but is giving greater weight to her own perceived lack of competence. On the other hand, she may well be accurate, but have the resilience to work at the task to be ready on time. Research would suggest, however, that the direction of the efficacy judgment remains a powerful predictor of subsequent performance.

In the second example, again from the Cantwell and Mulhearn (1997) data, the context of the negative efficacy evaluation is broader. Here
the student speaks of a more generic sense of incompetence – one which is linked closely to the developmental gap between where the student is operating (likely concrete-symbolic mode with at best unistructural reasoning) and the implicit demands of the programme in seeking a relational level of reasoning. The difficulty for the student is that the gap between known and unknown is interpreted within an internalised affective framework – I can never be as good as the experts:

I find it difficult to form your own opinion. You know you read something and you’re not to take that person’s view as gospel and you are to try to have your own opinion, or have an argument that is of your thought. I think it is having the confidence in your thought. Also, when I read something I find that I agree with them and think “Oh yeah, they’re right”, and I believe what I read. I think they’re right because they have written a book. It’s hard when for so long I wasn’t allowed to have my own opinion.

One may well suspect that as the student develops deeper and more structured knowledge bases, and as the student comes to distinguish between opinion and argument, some of the affective barriers will be lowered and the sense of efficacy in confronting tasks where a position is called for will develop. Again, there are significant instructional implications in managing this development.

How then do issues of affect link to our question of positioning the bar? I stressed earlier in the paper that there was a developmental component to enabling courses that required a fundamental shift in the way in which students needed to conceptualise the nature of the learning they were engaged with, and in the way they developed strategically as effective students. I also argued that for this to occur, such learning and development needed to be embedded in a curriculum context that was open, centred on the debate over powerful ideas, and assessed in a manner sensitive to the quality rather than purely quantity of knowing. In short, as I noted earlier,
learning in enabling is hard, and hard learning brings with it the risk of failure. There is an inbuilt affective dimension to any challenging learning situation – one which requires confidence in self-as-learner to be able to face and overcome uncertainties (both old and new). I also suggest that there are critical implications of affect for how one responds to the intellectual challenges faced. I have described this in terms of the “baggage” we bring – our affective history as both learners and as individuals in the broader society, establish for us the affective parameters for facing challenges. Where that affective history is fundamentally positive, the effect can be enhancing. Where that affective history is negative, the effect can be debilitating. In all cases, there is a direct link between “how we feel” and “what we do”. I now examine this in relation to one aspect of the metacognitive domain.

The meta-cognitive domain

A second implication of the step into the “unknown” is that the unknown must be considered potentially “knowable”. How one conceptualises knowledge, what quality of motivation guides goal selection in approaching learning, what conceptions drive the way one controls learning and so forth provide internal “text books” or “road maps” about learning that dispose us to respond to the learning environment in relatively predictable ways. In other words, all students enter the learning environment with prior understandings and beliefs about learning – their “intellectual baggage” if you like. These are reasonably powerful beliefs, although less enduring and more open to change than the strictly affective beliefs referred to in the previous section. We all have theories, for example, on what knowledge is, how we might regulate our learning when difficulty strikes, why we might succeed or fail in specific learning activities and so forth. What is important about these beliefs and theories is that they are the critical determinants of what we do when learning. Our need to constantly self-regulate (planning, monitoring and evaluating
what we are doing) requires some form of guidance. The source of this
guidance is the internal representation of learning — our own theories
and beliefs that instruct us on the what, the how, the when and the
why of learning. This works well when the driving theories and beliefs
are not only congruent with the objectives of the programme, but are
also called upon and utilised appropriately. The danger is that if these
beliefs and theories are flawed in some way, or if they are continually
overridden by negative affect, then less appropriate learning
behaviours are likely to occur.

Two examples may illustrate this. The first relates to the impact of
affect on goal formation — important to understand as our behaviours
are generally closely linked to our goals, so the quality of goal
formation directly influences the quality of subsequent behaviour.
The second example will refer to the impact of flawed understandings
of the nature of knowledge.

If I believe that the only limit to knowledge acquisition is the quality
of my efforts, then I am likely to see learning challenges (such as
differentiating “opinion” and “argument”) as able to be overcome by
appropriate effort and strategy use. In this instance a combination
of positive affect and openness to new learning allows for specific
and positive learning goals to be established. In turn, motivation will
tend towards mastery of the task with an accompanying willingness
to engage the task at a deeper level (see Figure 9). In this case, we
would expect congruence between what the curriculum requires and
the learning behaviours of the individual student, and if the students
learning strategies are appropriate, a successful outcome.
Figure 9: Linking affect to dispositional control beliefs – the influence of positive and negative affect on motivational choices

On the other hand, if I see knowledge acquisition as directly linked to my ability, and if I retain (affectively-driven) negative evaluations of my ability, then I am likely to see challenging learning tasks as highly risk-laden. Moreover, if I place high value on successful completion of the task, and if my expectation of success is limited, then fear of failure becomes a key element in my thinking. In order to avoid the affective cost of failure (public humiliation, for example), I establish goals oriented towards avoidance of failure rather than mastery of task. This would imply a shallower form of engagement with the task, one where the object of learning is to reproduce the given as the "safest" way to avoid failure. In this case, understanding is not the intent; the efforts are "ego-defensive" in devising ways to avoid the implications of failure.
The second example refers to the effect of flawed belief. In a recently reported study, Cantwell and Scevak (2004) investigated the academic adjustment of trade educated males entering an undergraduate teacher education programme. A number of measures describing "dispositions" were taken, including beliefs about knowledge, approach to learning and self-regulatory beliefs. Academic performance was also reported using the conventional grade point average. On most measures, this group presented as highly functional students - they saw themselves as motivated to understand, as using complex and deep strategies, as adapting their learning strategies to meet the needs of tasks confronted and so forth. In relation to beliefs about knowledge, the group generally recognised that knowledge was uncertain and that it required time and effort to acquire and understand. This was also seen as highly functional. However, in one aspect of their understanding of knowledge, there was a powerful flawed belief - that, on the basis of their educational and employment histories, they believed all knowledge could be reduced to simple structures that could be acquired sequentially. If we go back to our SOLO descriptors (see p6ff we may characterise the driving knowledge lens as unistructural or perhaps multistructural. To this group, deep learning was not about relational integration - it was about sequencing clearly identifiable sets of data into learnable knowledge. In a curriculum environment where Formal-1 understanding was mandated, these students struggled.

Conclusions

I began this paper by talking about two key phrases: the notion of "positioning the bar" and the notion of "getting it". The first phrase referred to a level of intellectual functioning that we might consider as prerequisite to successfully moving on to undergraduate study. This was seen as the explicit objective of most foundations or enabling courses. The second phrase referred to the basic issue confronting enabling educators: how do we take our students to a point where "getting it" means intellectually functioning at the
target level? In considering the implications of these two phrases, I have suggested that effective planning will revolve around three key, interacting elements: awareness of the developmental nature of enabling study and the associated defining of the target level of outcome; the provision of a curriculum and assessment model both grounded in and open to the possibilities of intellectual growth; and the accommodation of individual attributes of students undertaking the course.

In providing this framework for analysing effective enabling courses, I have not spent time discussing the instructional implications to any great degree. A detailed account of this aspect would require yet another paper. It is perhaps sufficient at this point to suggest that there is a close relationship between what is done on the ground instructionally and what is learned and produced by the students. Quality instruction can facilitate quality of engagement and quality of outcome. The reverse, of course, may also be true. By way of illustration, I have included a flow chart indicating the consequences of assessment and assessment feedback on subsequent learner activity (see Figure 10).

Figure 10: The effect of assessment feedback on student engagement
Let us begin at the point of performance assessment. Let us also assume that the assessment represents the application of SOLO principles based upon an open-task, sensitive to levels of understanding. That is, good assessment. In this instance then, feedback will refer to the quality of task performance, not the quality of the student. Embedded in the feedback will be reference to the apparent level of understanding, with explanations of how, when and where, strategic improvement in the way content is treated can be employed. Upon receiving this feedback, the initial affective response of the student should then be focussed on controllable task related factors (such as effort and strategy use) rather than less controllable personal attributes (such as ability or luck). Knowing “how” to improve then allows for task-centred goals to be constructed for subsequent learning. As feedback is about how the tasks are performed, the willingness to take further intellectual risks is enhanced, thereby improving the quality of engagement and hopefully performance. On the other hand, assessment feedback based on limited task-related information is likely to be interpreted in more personal terms (“I can’t do this”) which sets up the likelihood of a negative affective response. In turn, goals re-orient towards ego-defence, and a lack of willingness to risk (further) loss of face. Engagement therefore suffers, and performance not unexpectedly is diminished.

We may identify in the example above the interaction of all elements underlying effective enabling programmes – the “alignment” of development, curriculum and learners into a coherent programme aimed at achieving the targeted intellectual development of the students. We may also identify within this interaction the possibilities of not meeting the outcomes, where the “bar” is inappropriately positioned, where the curriculum is inappropriately prescriptive, or where learner attributes are not accommodated in the instructional process.
How do we place all of this together? I have attempted in this paper to provide an integrated and grounded framework for considering the goals and character of enabling courses aiming at undergraduate entry for their students. I have based my account on the principle that all enabling programmes are goal directed, and that how we determine that goal (or "position the bar") will directly impact on what we do as enabling providers. My emphasis on positioning the bar was based the recognition that, as with all educational endeavours, there is a developmental context within which the educational experiences are provided. This developmental context was framed in terms of Biggs and Collis' (1989) neo-Piagetian account of "modalities" of thinking, and within this, their conceptualisation of the structural complexity of the learning outcome. The "bar", then, was determined as a relational outcome within a concrete-symbolic mode of thinking. What was important in this positioning exercise was the the coincidence of the attributes of the bar with a recognition that this way of thinking and learning was not able to be assumed as characteristic of the target student population. Hence I emphasised in the introduction to the paper the concept of "getting it". "Getting it" meant more than having the necessary skills and abilities to learn new material. "Getting it" in my model refers more critically to how these acquired skills and abilities are used – and this is a question fundamental to any educational endeavour: the promotion of intellectuality. It is central, then, to effective enabling course construction and implementation that the form and level of intellectuality being promoted in enabling courses brings with it a curriculum sensitive to intellectual change and a pedagogy grounded in and supportive of intellectual development.

References


About the author

Dr Cantwell is a senior lecturer in the Faculty of Education and Arts at the University of Newcastle. He specialises in the development of learning theory and its applications to tertiary study. He has researched and published in a variety of areas relating to tertiary learning, including content area learning (such as nursing, history, music) as well as research into student performance at tertiary level, with particular emphasis on the role of enabling programmes and on aspects of learning processes in doctoral study. As a member of the Centre for the Study of Research Training & Impact, the current focus of Dr Cantwell’s research is in the area of cognitive studies in doctoral learning, included funded research into interpersonal relations and their impact on doctoral study, epistemological change in doctoral candidature, volitional control and doctoral study, text indicators of contribution in doctoral writing as well as cognitive processes in doctoral writing.

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