University Education: Enculturation, assimilation or just passengers on the bus?

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Education has been viewed as a process of enculturation into the beliefs, practices, values and styles of discourse of a particular community. This paper presents a model of enculturation that has the potential to expose how, or whether, social and academic practices are translated by students into cultural norms which determine and shape their learning outcomes. The application of this model, developed in an interpretive case study with engineering students, suggested that for many undergraduate students the educational process had been one of assimilation, adopting instrumentalist attitudes of compliance, rather than enculturation into shared values and norms.

Introduction

The concept of culture is common within the educational discourse. Perspectives and understandings of culture and enculturation abound. Recent theorists (Levinson, Foley & Holland, 1996; Margolis, 2001) build on the much earlier work of Bourdieu who linked educational success to cultural capital and Vygotsky (1978) who viewed effective learning as a process of enculturation where novices engage with more experienced peers or those who have recently mastered the task at hand. Research in the higher education sector has strongly supported the view that early student engagement with the culture of the university is a key factor in shaping the academic and social development of new students (Krause, Hartley, James and McInnis, 2005). The university culture has expectations that students will behave in a certain manner in class, will submit to examination, learn in a given manner and accept rules and regulations. At a deeper level, higher education and academic disciplines have been described as involving a sense of identity and personal commitment, "a way of being in the world"…" a matter of taking on a cultural frame that defines a great part of one's life" (Geertz, 1983). Becher (1989) described academic disciplines as "academic tribes". First year students are therefore not only watching and learning how to operate in the university environment, but also coming to terms with ways of behaving, writing, and valuing knowledge that may well vary in different academic disciplines.

Central to all definitions and understandings of culture are the notions of sharing and learning. Shared understandings, knowledge, symbols and experience which guide actions and reactions are expressed as cultural norms in the behaviours and practices of an affiliated group which give them social definition and a sense of association. Inherent also in the concept of a culture is the understanding that new members entering the culture undergo a learning process, an enculturation into a well-established system of practices, behaviours, values and norms. If effective learning is associated with a process of enculturation, then an understanding of how day-to-day behaviours and practices become embedded as cultural

norms will expose a match or mismatch between the lived experience of staff and students and espoused values. The process of developing that understanding also has the potential to expose whether the educational process has involved enculturation at the level of shared beliefs and assumptions, or just a process of assimilation, with students adopting instrumentalist attitudes of compliance to fulfil their goal of graduating. Just as assumptions cannot be made that passengers on a tour bus develop a common culture, perhaps we cannot assume that even "successful" students develop shared values and understandings.

Background

This paper proposes the use of a model, developed by the author (Godfrey, 2003a), as an effective and accessible analytical tool with which to examine the processes of enculturation. This model evolved from a study seeking to define the dimensions of the engineering education culture and, in so doing, developed a model that could be used to position specific cultures at the discipline or institutional level. The need to define the engineering education culture arose from the perception that international calls for culture change within engineering education (IEAust, 1996) were not matched by common understandings of how, and indeed whether, disciplinary values and cultural norms were reinforced both explicitly and tacitly in day to day practices.

The study used an interpretive case study methodology incorporating predominantly ethnographic methods of data collection with checks for validity and trustworthiness build into the research design. For reasons of brevity the methodology and analysis used to develop the model is not included, but is summarised in Godfrey (2003b). Although the resulting cultural dimensions were articulated for engineering education the model of enculturation appears to be transferable at an institutional or disciplinary level.
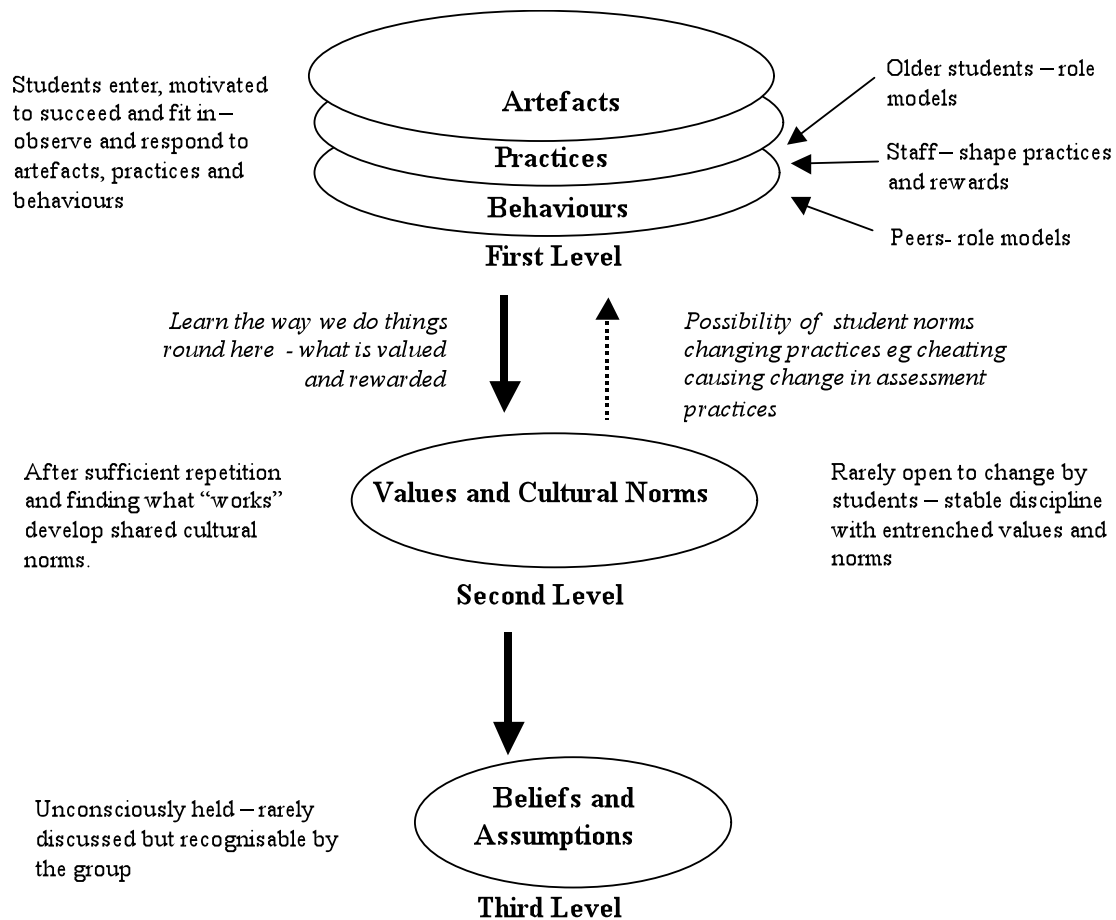
Enculturation – a model

The model (Figure 1) clearly delineates between three levels of culture: the observable manifestations of culture, here named as Artefacts, Practices and Behaviours, the values and behavioural norms that underlie them and, at the deepest level, the unconsciously held beliefs and assumptions that are seen as the core or essence of a culture.

Using this model, enculturation or learning the culture can be described as a top-down process. From the observable and tangible manifestations of the culture, the day-to-day practices and behaviours contained in teaching and assessment practices, events and relationships, students interpret the values and cultural norms which empower them to operate successfully within the learning environment.

Staff play the major role as transmitters of the academic side of the culture. They have the power to set curricula and pedagogy, affirm culturally appropriate behaviours and reward, using assessment, ways of thinking and reporting. In the engineering case study, senior students also played an important role in transmitting social values and cultural norms. The students' peer group contributed, by affirming appropriate behaviours and practices, particularly in the formation of task-oriented friendships and support strategies.

Figure 1:   Model for enculturation

Students enter, motivated to succeed and fit in – observe and respond to artefacts, practices and behaviours

Artefacts

Practices

Behaviours

First Level

Older students – role models

Staff – shape practices and rewards

Peers – role models

Learn the way we do things round here - what is valued and rewarded

Possibility of student norms changing practices eg cheating causing change in assessment practices

After sufficient repetition and finding what "works" develop shared cultural norms.

Values and Cultural Norms

Rarely open to change by students – stable discipline with entrenched values and norms

Second Level

Unconsciously held – rarely discussed but recognisable by the group

Beliefs and Assumptions

Third Level

In engineering, a common first year program taught entirely "in-house" was an explicit manifestation of the value placed by engineering staff on enculturating students right from the beginning and introducing them to the "engineering way of thinking"

> Diverse range of courses - not one overriding philosophy. Some courses seem to be teaching us to think as engineers whereas others, rightly so, are concerned with basic knowledge, the calculations, the details.   (Laurie, 1st year student)

As students moved through the degree program, the process of repeatedly finding out what "worked" and was rewarded, led them to learn and identify with the values and cultural norms which they perceived as congruent with the identity "engineer". Similar processes would occur in any institution or discipline in which a history of shared experience and stability had allowed a distinctive culture to emerge.

The following student comments, demonstrated that engineering students, even in their first year, had gained some appreciation and ability to recognise an "engineering way of thinking" and "way of doing" and what it meant to be an engineer:

> Thinking like an engineer, kind of being taught it I suppose. The whole course is directed at making you think differently, that is how I feel it.   (John, 1st year student)

> I think that thinking as an engineer is thinking of the theoretical best solutions to problems and then the best practical way of doing it   (Joshua, 1st year student)

These comments illustrated that aspects of the engineering culture, those skills and attributes which were valued, had been explicitly discussed and manifested in practice. Academically, the engineering case study showed that enculturation into a disciplinary culture could be well advanced even after one year at the university. The diversity in ethnic, socio-economic and schooling backgrounds however, challenged implications of cohesion or shared cultural norms in a social sense, as exemplified in the comment:

> I think there is a culture in terms of "I am an engineer" and the way of thinking in terms of an academic attitude …but on a social level there isn't a distinctive social type, there is a distinctive thinking type
>
> (Angus, 1st year student)

It must be remembered that when first year students enter the university, they are not coming as empty vessels waiting to absorb new knowledge, values, beliefs and attitudes. They already inhabit the "multiple worlds" (Phelan et al, 1991) of family, peer groups, school, and church communities, with an understanding of the cultural knowledge, values and attitudes required to move between those settings. From the first day at orientation, they move into another "world", that of the university. The strong urge to "fit in and belong" started at Orientation, and the comment:

> Everyone just wanted to belong somewhere in engineering and it was easy because everyone was looking for friends.
>
> (Sue, 1st year student)

was typical for the majority of the first year engineering students interviewed.

The case study demonstrated that the need to adapt appeared to be critical to the students' success both academically and personally and adaptation was easier for those students whose experiences and personal value systems were similar to those in the new culture. Students who were "loners", part time students, or found it difficult to find a friendship group were often to be found at risk of academic failure. Byrne's (1993) analogy of adaptation to an institutional ecology was useful, as was the concept of "boundary crossings" used by Phelan et al. (1991). In both of these discussions the need for adaptation to a new environment was envisaged rather than enculturation.

The transition process was likely to be similar for all students entering higher education but for the first year engineering students in the case study there were several unique features. Firstly, they were not only entering higher education but specifically engineering education and potentially the profession of engineering. From the first day at orientation and throughout their four years of study, they were reminded that they were not just attending university to gain an education, but to learn what it meant to be an engineer – the knowledge, skills and attributes they would need in the profession. It was likely that the rhetoric at Orientation might be similar for students entering other professional disciplines, as values and expectations for their professions were made explicit and a sense of "belonging" could be encouraged. For first year students entering the broader spectrum degrees of Arts and Sciences it is suggested that discipline or Faculty specific Orientation activities were less likely, and a sense of entering and belonging to a community would be less personal. Individual courses might explicitly state the expectations or learning objectives they had for students doing that course, but for the majority of these students the development of shared understandings about the values and cultural norms of their university experience would appear to be sourced from the day-to-day reality of lectures, study, assignments and exams.

Do we teach what we value? What do our students learn?

Teaching and assessment practices play a particularly important role in the processes of enculturation. A few brief examples presented in this section, from the original case study, show the potential of these practices not only to reinforce for students the beliefs and values shared by staff, but also to lead students to unintended learning outcomes and cultural norms.

A major curriculum restructuring had resulted in explicitly forefronting the value of communication and professional skills. The inclusion of a Professional Development course in each year of the degree, utilising a variety of assessment methods – both written and oral, manifested the value placed on these skills. As a consequence of making these values explicit in the curriculum and reinforced by assessment practices, even first year students had developed shared understandings exemplified by these comments :

> You do have to think about that, they have been drumming it into you. Engineering is communicating, you have to know how to write, and how to talk with people and communicate
> (Angus, 1st year)

Despite the efforts of staff to forefront non- technical aspects such as social and environmental issues, there was still a tendency for these issues to be marginalised in the Professional Development core papers, rather than integrated into the technical papers. Students therefore had developed other shared understandings which led to comments like:

> I think they tended to marginalise the information about environmental stuff. Maybe they should have it integrated into all the papers if they really value it... What they are saying in their values is that this stuff is not an important part in engineering -it is an aside that we throw in because we have to, but it is not a core part of engineering.   (Megan, Civil 4th year student)

Other practices were the result of taken for granted, rarely articulated, shared understandings within the discipline, such as the pervasiveness of mathematics as an efficient, effective means of communication. It was common practice in engineering to see lecture notes and whiteboards completely taken up with mathematical formulae and computations. Students and staff shared understandings about the role of mathematics, both as a tool and a language.

> Engineers have to be able to, have a mathematical mind, and enjoy maths I guess or at least tolerate it. I think it is the most important thing   (Alex, 1st year student)

> Mathematics is a nice vehicle for delivering these ideas I don't think you could really function without mathematics in these sorts of systems   (Senior staff member)

> We use maths like a language -a language to express ideas -so unless they can understand what the parts of the equation mean they cannot see how it can be manipulated and a higher level of understanding cannot be attained.   (Junior staff member)

Students were constantly reminded by repeated examples that mathematics was important: engineers had to provide solutions that actually worked, bridges, materials and power systems that could withstand their loads, structures and systems that could work within predictable constraints and tolerances.

Tensions and contradictions were often apparent at the second and third layer of analysis, as cultural norms revealed in the shared understandings around behaviours and practices a mismatch with espoused values. Individual assessment items, for example, were sometimes perceived as not matching goals:

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> The lectures in Geomechanics were really interesting and included stuff about the environment but the exams were all mathematical – easier to mark I suppose. (Trish, 4th year student)

> The lecturer said the test would be based on understanding concepts and ideas and the test was all multichoice rote learning or numerical problems. Some people were a bit dismayed and asked "What the heck is going on?" (Laurie, 1st year student)

Another mismatch was identified in the response to the espoused value of deep learning expressed in course aims which used terms like "understanding" and "application of knowledge". Perceptions by both staff and students evidenced the prevalence of instrumentalist or surface learning.. A "go for grades" or "just in time" approach to learning and assessment was often blamed on the high workload of on-course assessment but perceived as a cultural norm.

> I am concerned that lecturers believe that they are teaching for understanding and that this is what students should be striving for – understanding and challenge – but my observation is that students only think of grades – "Is it in the exam?" "What does it count for?" (Junior staff member)

> sometimes we did not have the time to learn, just hand in the assignments when they were due (Simon, 1styear student)

> too much in too short a time, we never had time to get into anything in depth (Student Questionnaire)

A major concern was another mismatch between espoused values and cultural norms -the incidence of cheating or inappropriate co-operation. In the engineering culture which highly valued co-operation and teamwork in group projects, this mismatch created ongoing dilemmas for equitable assessment and seemed driven by the perceived need to pass:

> You don't want to fail and if you don't know what you are doing you probably go to any lengths to keep passing – maybe the risk is worth it. (Helen, new graduate)

It is suggested that these comments are transferable to students in many of our institutions today.

Assimilation or enculturation? Which is necessary for success?

It might be asked "Is enculturation different or more imperative for the professional disciplines where there is a greater 'buy-in' to a shared identity?" A strong sense of identity as engineers certainly ran throughout this study and even the few examples discussed in this paper have evidenced cultural norms and shared beliefs and assumptions which implied some level of enculturation. Three levels of enculturation are proposed:

If education is like a journey, then students might be likened to passengers on a tour bus - they have paid the money, taken the trip with other people, gained the piece of paper. Such students would have a very shallow approach to learning with little understanding of the discipline and would be unlikely to be able to apply the facts and knowledge gained. Questionnaires returned from a diverse group of graduating students revealed a very small number of students in this category. The long period of close contact and compulsory courses demonstrated that a degree of shared understandings had developed.

There was, however, considerable evidence that for a large number of students a second level of enculturation, Assimilation, was more common. This level appeared to imply a strategic or instrumentalist approach to learning. These students used an expedient mixture of deep and surface approaches to ensure academic success, with a sharing at the level of cultural norms and some values, but without a sense of whole hearted commitment at the level of beliefs and assumptions.

> I just want to finish, I just want to get out of here (Stella, 4th year student)

They preferred a transmission style of teaching, with "good teachers" seen as those who provided the most complete notes, and highly structured assessment items. Staff saw this, in part, as:

> A factor of the pedagogical climate -idea of university as a place where they find things out for themselves has gone -some of that can be based on having to pay their own fees -their attitude is "I paid my fees -now just help me get out of here " (Senior staff member)

This concept of an education as a "transaction" was also evident in comments such as:

> Lecturers need to realise we pay a lot of money and should therefore receive a quality education (Questionnaire)

In a discipline such as engineering where students progress as a class group for four years, and in an institution such as the U of A where the faculty has long standing traditions, with long serving staff, the process of "enculturation into a well-established system of practices, meanings and beliefs" as students "learn what it means to be an engineer" Tonso (1996, p.218) did appear evident for many of the students. Interviews and questionnaires with final year students revealed a high degree of commonality, which demonstrated that many of these students had interpreted and internalised "what we do round here" to the level of shared beliefs and assumptions about the engineering way of thinking, doing and being. The following comment illustrated that although these shared beliefs may not have superseded personal social values a sense of "what it means to be an engineer" was evident.

> Engineering does have a special and valued identity. It is "I am an engineer" based on getting a job, working harder, doing something practical and useful... .The pride in being an engineer, combined with how much time you spend with classmates results in a family feeling. (Trish, 4th year student)

Several questions appear to remain. How necessary is it that students at undergraduate level are enculturated into a discipline? Is it in fact appropriate to speak of enculturation at undergraduate level? Is assimilation sufficient if what is "taught" (curriculum teaching and assessment practices) explicitly manifests "espoused values, beliefs and attitudes". Is this sufficient to ensure appropriate and desirable learning outcomes for the majority of students? It is argued that at undergraduate level, with students from increasingly diverse backgrounds, larger class sizes and degrees spanning several academic disciplines, it may be an unrealistic expectation for enculturation to have occurred for all students. Pragmatically, assimilation or adaptation may be sufficient at this level. Further exposure to the beliefs and assumptions of an academic discipline such as engineering, developed over time in employment or postgraduate study, are seen as necessary to clarify and confirm the values and norms learned as a student.

Conclusion

Universities today commonly identify idealistic lists of "graduate attributes" that their graduates are expected to have acquired, or at the least should aspire to have acquired. They articulate via mission statements, charters and graduate profiles, attributes such as: the capacity for critical, conceptual and reflective thinking, intellectual integrity, respect for truth and for the ethics of research and scholarly activity, and the ability to recognise when information is needed and a capacity to locate, evaluate and use this information effectively. In articulating these values and their belief in them, universities have the opportunity as educators to focus attention on these big-picture educational goals which might otherwise be lost sight of amidst the attainment of a specialist body of knowledge. In so doing, if students are to develop shared understandings of what is valued by their discipline, or by a university education, i.e. to be enculturated into a disciplinary or higher education culture, then the cultural model described in this paper demonstrates an important feature of that process.

The outermost level of culture - the observable manifestations of behaviours and practices i.e. teaching practices, curriculum content and assessment methods, and relationships with staff and other students – all provide the data from which students internalize understandings, values and cultural norms. What we do, what we say and what we write must reflect and manifest the attributes, values and goals we believe in, as explicitly as possible. If not, students will interpret for themselves what they believe is valued and their learning outcomes, values and cultural norms will reflect that interpretation.

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