

# **Cross-cultural perspectives on the creation of effective learning environments for undergraduate students.**

Dr Della M.A. Fazey  
University of the West Indies,  
St Augustine, Trinidad  
Email: [della.fazey@sta.uwi.edu](mailto:della.fazey@sta.uwi.edu)  
Email: [d.m.a.fazey@bangor.ac.uk](mailto:d.m.a.fazey@bangor.ac.uk)

## **Abstract**

According to Self Determination Theory (Deci & Ryan, 1985), individuals are most likely to demonstrate achievement behaviours such as persistence, application of effort, challenge-seeking and curiosity when their motivation can be described as self-determined. Self-determined motivation is characterised by the internalised valuing of an activity by the individual and differentiated from externally-motivated behaviour where the activity is not valued. Whilst Self-Determination Theory can be applied to both teachers and students in University this paper will focus on the students and ways in which courses can be designed, structured and taught to enhance their learning. A second theoretical perspective will also be discussed – that of alignment of teaching and learning (Biggs, 1996; Trigwell & Prosser, 1999). This theoretical perspective supports the notion that, to be effective, the course construction and presentation (content, structure, teaching approach, assessment method, criteria for marking etc.) must be closely aligned with the teacher's intentions for student learning outcomes. It is proposed here that, in a high quality learning environment, an additional alignment must exist. Students' understanding of what is required must be congruent with what it is that the teacher is intending (O'Donovan, Price, & Rust, 2004). For this to occur there must be constant checks that the teacher-student communication channels are functioning effectively.

Experiences in programme and module design and implementation in Bangor University in Wales and in the University of the West Indies, Trinidad are discussed in relation to the self-determination and alignment perspectives described above and supported by research evidence. It is argued that self determination and alignment are generic features of an effective learning environment and are cross-culturally valid, as

a discussion of the similarities and differences between the two Universities will indicate.

**Key words:**

Self-determination; Approaches to study; Constructive alignment; assessment criteria; cross-cultural comparisons.

## **Introduction**

For effective learning to occur, higher education (HE) students must be fully engaged with the process. Over a number of years, experiences of programme and module design, subsequent teaching of these and support for others in these activities has enabled me to derive some principles which inform programme development and teaching approach. These principles offer a framework within which decisions about the type, style and implementation can be made. In both the Bangor University (BU) and University of the West Indies (UWI) contexts, designing and delivering programmes that are fit for purpose, keep the students and their perceived needs as the primary focus (i.e. are perceived by the students as personally relevant), and provide students with opportunities to take control of their learning, are three important principles, though not exclusively so. As we are focusing on HE, the intention also has to be to provide an environment in which higher level thinking skills are facilitated. Not all students (or staff) understand what this means or how to achieve it but if we are to engage students in academically-challenging higher level learning, teaching staff as well as students must be able to articulate what this might look like.

I have had the opportunity to consider the cross-cultural relevance of these underlying principles at BU and in UWI and in this paper I draw on my experiences of designing and implementing undergraduate degree programmes in similar subject area but in the two different cultures. The framework of principles is informed by my understanding of two particular theoretical perspectives (Self-Determination Theory, Deci & Ryan 1985 and Theory of Constructive Alignment, Biggs ,1996) which I offer as an explanation of how the framework meets some of the challenges we face in engaging students in study at a higher level. Finally I add another practical issue to the discussion of student engagement – that of ensuring understanding between teacher and student – and suggest ways in which this might be enhanced. I start by briefly describing my experiences in two different HE cultures.

## **Cross-cultural comparisons**

Over more than 20 years within UK HE I have designed programmes, taught them, enhanced their quality and helped other staff to evaluate and adapt their own teaching approaches. I have also researched student approaches to their learning (e.g. Fazey, 1999) and been involved in degree programme validations both internally and externally. As a Quality Assurance Agency (QAA) reviewer I had the opportunity to examine in detail the programmes of other institutions and engage in debates about what is quality and how can we recognise and enhance it. A recent experience as Academic Co-ordinator of a new undergraduate degree programme at the University of the West Indies (UWI), Trinidad has offered me a different context in which to consolidate my understanding of teaching and learning in HE. At BU I was responsible for the quality of teaching and learning in a Sports Science department with full-time students; in UWI I am responsible for the quality of a BEd for Physical Education teachers who study part-time but who need a degree qualification in order to be able to progress in their careers.

The experience of designing and implementing undergraduate programmes in the UK and, more recently, in the West Indies, has suggested that the same principles apply across both cultures but that the issues that arise (e.g. consistent application of criteria in assessment) from trying to apply them can be different. On the surface, HE in both countries has a similar base although the UWI procedures are a meld from those in the UK and the USA. In designing the degree programme at UWI the intention was to create a research-led, challenging course of study for students who already had at least 5 years of experience as teachers. The teaching to which these teachers would have been exposed was likely to have been didactic, not academically challenging and certainly not research-led or supported by a research culture. The programme director was determined to present students with high quality study experiences by bringing in lecturers from the US and the UK. The programme had to be fit for the purpose of raising the quality of PE teaching in Trinidad and providing the students with many opportunities to experience how that could be done. In order to achieve this there is a personal reflection process which connects elements within the whole programme, integrating learning and demanding consideration of how the various modules contribute to better personal

professional practice. The immediate relevance for the students (which affects their motivation) is that they need a degree in order to progress in their careers. However, although many may be extrinsically motivated initially, the role of the programme designers and implementers is to move them towards an intrinsic motivation by providing them with stimulating study opportunities that they perceive as being applicable to them.

In the UWI programme, regrettably, there was no opportunity to provide choice between modules. Physical Education modules were restricted by the University requirement that students study Foundation courses (similar to programmes in the US) and, as this is a BEd, existing Education modules. Additionally many students feel compelled to study this programme as the Ministry of Education (their employer) has 'selected' them and strongly encouraged them to participate. The students at BU, on the other hand, have had more opportunity to choose a programme that suits them (though we recognise the influence that parents and schools have on such choices) and, within the programme are offered some choice of modules (although that apparent choice is often limited by pre-requisites and strategic decisions). At Bangor a personal reflection process using personal tutors and portfolio work, was designed to help students create personally-relevant learning opportunities and to recognise how they could use their time for learning more effectively in relation to their aspirations for the future. For both groups of students there are University and programme level influences on their learning and the extent to which they can understand what is required and how to achieve it.

Marking schemes in UWI, for instance, are described in four ways, any one of which might be used in a course. These are marks (per cent), grades (A-F), classifications (1<sup>st</sup> class etc.) and grade point average (GPA). Teachers, depending on their previous experience or country of study, may use any of these assessment schemes and may or may not understand all of them. There is also a discrepancy between the marks awarded (and thus the criteria used for grading work) by some teachers from the UK and those from the US. In one course at UWI all students achieved an 'A' grade from a US teacher and efforts are being made by the programme Director and by me as Academic Co-

ordinator, to address the quality issue that this presents. Communication between teaching staff is the challenge here and if staff cannot share an understanding of what is required then students are potentially at a disadvantage. At UWI, of course, we are dealing with a group of students who are, themselves, teachers and who are generally more aware of the pitfalls associated with such issues. They can be engaged effectively with the debate which is relevant to them as professionals, in a way that students at BU cannot. They also display much less deference to the teaching staff than do students at BU and are prepared to challenge and question if they do not understand, all of which is exciting for lecturers. The UWI students lack academic skills in relation to those at BU but have the advantage of life and professional skills that they can apply to their learning. In both cases the challenge of communicating criteria for assessment is crucial but presents the teacher with different challenges.

Regardless of the HE context, choosing to engage in studying, setting challenging goals, applying effort, showing interest and being persistent are all behaviours which are associated with achievement. They are the products of self-determined motivation and the theory that specifically addresses this is discussed in the next section. Research evidence that indicates how UK students' engagement across a module can be enhanced is also presented.

### **Self Determination Theory**

There are numerous theories of motivation, all of which have something to offer to our understanding of why people act in ways that they do. One that is particularly useful in the HE context, as in many others, is the Theory of Self-Determination (Deci & Ryan, 1985). Self-determination concerns the extent to which individuals take control of their actions whether in the initiation of these actions or in acting to achieve the desired outcomes. In learning terms an example would be the extent to which students perceive they have chosen to study and the extent to which they feel that how they behave will impact on their success. Deci and Ryan(1985), and Deci, Vallerand, Pelletier and Ryan, (1991) describe a continuum with intrinsic motivation at one extreme and external regulation at the other.

Two of the regulatory mechanisms on the continuum are described as being self-determined forms of motivation – intrinsic and identified regulation. When intrinsically-motivated students have chosen to study for entirely personal reasons such as interest or curiosity. They are excited by learning and value it for its own sake rather than as a means to an end such as to gain a degree. There are not, however, many occasions when we can claim to be purely intrinsically motivated and the next regulatory mechanism along the self-determination continuum is that of identified motivation. In identified motivation, the individual values the activity but it is initiated by others and has a more instrumental purpose than in intrinsic motivation. For instance, students who are described as being motivated through identification when working to complete an essay will be interested in the topic and value the activity of learning for its own sake. They undertake the task because they are required to do it in order to complete the modules and are also motivated to achieve a high mark in order to get a better degree classification. As these last two reasons for doing the essay are externally derived, students motivated in this way are not described as being intrinsically motivated.

There are two regulatory mechanisms which are labelled as being non-self-determined. In other words students at these points on the continuum do not value the learning opportunity for itself, do not perceive that they have chosen to participate and are motivated for reasons external to the activity. They are, however, motivated and will act (e.g. will complete the essay) but this motivation is more fragile when the task becomes difficult and the quality of the work is likely to be lower than would be the case if they were self-determined in their approach. Introjected regulation describes activity that is driven by an emotional response such as fear of failure or guilt. The reason for acting is thus associated with avoidance of a negative experience rather than because learning is valued. Individuals do not choose activities that present them with such a threat but will engage in them if they have to in order to achieve an aspiration such as a degree. The regulatory mechanism that is furthest from intrinsic motivation is that of external regulation. When externally regulated students only act because they are required to do

so by some significant, external force. They do not choose to learn, do not value the learning, are not persistent when the going gets tough and perceive they do not control the outcome of their actions.

The aim of any programme designer or teacher should be to enable students to be motivated at the self-determined end of the continuum. This would ensure that achievement behaviours such as persistence, interest, curiosity, challenge-seeking, excitement and consistent application of effort would be likely to be demonstrated by the students. Although motivational orientation has a dispositional element to it (Vallerand, 1997), we can all move along the motivational continuum from more or less self-determined positions, given a particular stimulus such as a learning environment. If we aim to make students more self-determined in their learning, programme design and implementation would provide students with choice and relevance and encourage them to believe that their appropriately-applied efforts would have an impact on the outcomes of their learning. Although design is important in this respect, more crucial is the delivery.

Fazey and Lawson (2001) designed and taught a Level 3 module in Sport Psychology in BU. The principles that have been discussed above (choice, perceived control over outcome and relevance/value) were embedded into the presentation of topics and assessments. The research aimed to encourage a deep learning approach to study (where the student intends to learn for understanding, looking for relationships and constructing and reconstructing information) and a self-determined motivational orientation. Previous research had indicated that students' approaches to study became less 'deep' as modules or the programme progress and the final assessment approached (e.g. Newstead, 1998; Solominides & Swannell, 1995) and that motivation for study was significantly affected by perceptions of the assessment demands (Biggs, 1999; Bransford, Brown, & Cocking, 2000). The intended learning outcomes of this Level 3 module were discussed in detail with the students and reinforced consistently throughout the module. These explicitly stated that students would be expected to demonstrate understanding of complex, multidimensional relationships between a number of psychological variables, how these

might be affected by previous experience and current context and how, as professionals, they might recognise and deal with, individual differences. The structure offered students the opportunity to practice constructing and reconstructing knowledge in a number of different ways, used many different case studies which allowed them to understand the relevance of the concepts and theories and how they could be applied to practice, encouraged groupwork and frequent discussion of research and provided feedback for practice attempts at cognitive mapping and oral explanations of their maps. The final assessment method was a viva voce which was a novel mode of assessment for all the students. In this students were encouraged to utilise their cognitive map which they had constructed over the whole module. The map representing a student's understanding of all the related topics, supported by theory and research, could be of any design but had to fit onto an A4 sheet of paper. The examiner also had a copy of the map and engaged in conversation with the student in a 30 minute viva voce. Students had been taught appropriate methods of preparing for this examination and had been offered practice with feedback.

Before and after the module, 56 students were measured on the Academic Motivation Scale (AMS; (Vallerand, Pelletier, Blaise, Brière, Senécal & Vallières, 1992) and on the Revised Approaches to Study Inventory (RASI; Entwistle & Tait, 1994). Changes over time on the motivation scale indicated that 'to be stimulated', a subscale of intrinsic motivation, increased significantly from pre-to post-test ( $p < 0.03$ ). There were non-significant increases in other intrinsic motivation subscales over time. Identified regulation scores did not change whilst, in the non-self determined motivation subscales, there were no significant changes although external regulation scores decreased. In the study approaches a significant interaction was accounted for by non-significant increases in deep and strategic approaches and a non-significant decrease in surface approach scores. Observation of the behaviour of students indicated that they were, on the whole, engaged in working towards the learning outcomes that we had set. There were, inevitably, some students who, during the previous three years had spent more time socialising or rock climbing than they had studying, and habits are difficult to break but, on the whole, time on task for most students was pleasing.

Whilst none of these results were, on the face of it, startling, the maintenance of levels of deep approach and the significant increase in excitement or stimulation as a motivator are contrary to findings in previous studies and a positive result. The significant interaction found in the study approaches data indicates that, despite non-significant changes in the three subscales, the trend is positive with increases in deep and strategic approaches and a decrease in surface approach. In most learning, students are likely to utilise all three approaches at some points but it is worrying when students focus on remembering given facts rather than on intending to understand. The consistent emphasis during this module was that the purpose of study was to be able to construct and reconstruct knowledge, creating a schema of understanding that could assimilate new knowledge as the module progressed. At the final assessment, students could bring their 'picture' with them, including personally relevant cues concerning theories and research evidence to support the discussion. It appears that this emphasis, on the part of the teachers, enabled students to maintain their deep approach intentions and, unusually, to be increasingly motivated through excitement and stimulation of their study. It could be argued that it was the mode of assessment that created the positive learning approaches and maintained motivation ((Biggs, 1999; Bransford, Brown, & Cocking, 2000) but, in hindsight, the researchers felt strongly that it was the consistent feedback about, and reinforcement of, effective approaches that was particularly influential. The teaching approach could be described as being congruent with the declared and implicit intended learning outcomes. Although creating a learning environment in which all the parts controlled by the teacher were coherent (learning outcomes, teaching approach, assessment method etc.) was not a focus of this investigation, a body of research has grown concerning the impact of a well-aligned module on student learning and this is the focus of the next section.

### **Constructive Alignment**

When individuals structure and reconstruct information, their understanding of this information changes and with it their perspective on the world (Barab & Plucker, 2002). Learning thus becomes transformational and is facilitated by teachers who intend this transformation to occur in their students. Transformational learning is most likely to

occur when intended learning outcomes for an activity are explicit (Biggs, 1989; 1999), when students are motivated to achieve, and when interaction and collaboration with others is supported (Soller, Goodman, Linton & Gaimari, 1998). It is also closely associated with a deep approach to study. The teachers' intentions, together with their construction of the learning environment gives students confidence that the marks they gain at the end of the module will be reflected by the extent to which they work in a way that the teacher is expecting. Biggs' Theory of Constructive Alignment (1996) proposes that student attributes, intentions and behaviours must be congruent with the characteristics, demands and intentions of the teacher-constructed learning environment if effective learning is to occur. Of course a well-aligned module, whilst it might engage students in learning, will not necessarily be of high quality if the teacher is only concerned with transmitting information rather than transforming students' understanding. High quality learning that provides students with graduate-level skills will be most likely to be found where teachers' intentions are transformational, learning environments are structured to achieve this and students are self-determined in their intentions to understand the material that is offered to them.

In a study by Lawson, Fazey, D. and Fazey, J. (2006), the Approaches to Teaching Inventory (ATI; Prosser & Trigwell, 1999; Trigwell, Prosser & Taylor, 1994; Trigwell & Prosser, 2004) was used to measure the extent to which seven teachers reported information transmission or conceptual change intentions for their students. With an information transmission intention, teachers focus on transmitting information that will be recalled by students. A conceptual change approach is where students are the focus of the teaching, with the teacher providing an environment in which students can construct and reconstruct their understanding. Using observational and other techniques the alignment between teachers' intentions and the way that they approached their teaching was also categorised. 283 students, both undergraduates and postgraduates, studying on seven different modules at the BU, were measured on their motivational orientations and approaches to study before and after their modules. Of interest was the extent to which students' approaches to study and motivational orientation were related to teaching intentions and approaches. Although some of the findings were anomalous with expectations and previous research (e.g. Trigwell, Prosser & Waterhouse, 1999) generally

teachers' transformational approaches resulted in higher deep approach scores for students whilst in modules where the teacher had information transmission intentions, students had higher surface approach scores. Changes in learning approach across time varied in terms of size and direction within the modules but in general the modules classed as aligned and encouraging a constructive, deep approach recorded increases in students' deep approach. For students' motivation, self-determination (intrinsic and identified) was generally higher when teachers' intentions were transformational and the module was well-aligned, although the former seems to be more important than the latter. According to Williams and Burden (1997) students respond to many messages about what their teacher is expecting that are implicit rather than explicit, expectations that stem from teachers' beliefs about learning and how it occurs. The next section of this paper addresses some of the discussions concerning the extent to which communication between teacher and student is important for engaging students appropriately in their learning and why it is important to recognise the effect of implicit and explicit messages.

### **Sharing an understanding of intention and achievement criteria**

As teachers we have all, at some time, been puzzled about why a student has tackled a learning task in a particular way, especially when it spectacularly leads to failure to achieve what was needed. If students are to achieve their potential in learning at any level, they need to understand the criteria by which their teacher will assess their progress and teachers must therefore be able to articulate these. Those who have been involved in team-assessment or discussion about applying explicit criteria for judging work in a standardised, equitable way will immediately recognise the difficulties. No matter what words we use or how many times we try to elaborate our understanding of their meaning, different interpretations of the words will remain (Webster, Pepper & Jenkins, 2000). Price, O'Donovan and Rust (2001) provide an example of the attempts made in one UK institution to develop a matrix of criteria that could be applied to identify the appropriate grade. Like many similar attempts to develop instrumental generic descriptions of 'graduateness', level descriptors and subject benchmarks, the adoption of generic criteria

for assessment has proved to be less useful than anticipated. So how do we address what is a fundamental requirement for effective learning?

In any learning context where assessment processes are important, there are both explicit and implicit (or tacit) criteria which are applied when judging the standard of students' work. When students are unsure about the criteria by which they are assessed or perceive that criteria are applied unfairly, they become anxious and/or angry to the detriment of their motivation and performance (Chory-Assad, 2002; Nesbit & Burton, 2006). In their research, Price et al. (2001) provided opportunities at the beginning of a module for students to engage in a workshop which used a number of different approaches to help students actively learn about the explicit assessment criteria. Although they felt that this intervention generally had an impact on the quality of the student work, the authors concluded that 'The continued emphasis on explicit articulation of assessment criteria and standards is not sufficient to develop a shared understanding between staff and students. Socialisation transfer processes are necessary for tacit knowledge transfer to occur.' (Price et al., 2001, p. 218). In a subsequent article, O'Donovan, Price and Rust (2006) recognised the importance of making tacit as well as explicit assessment criteria accessible to students and provide a conceptual framework to enable more effective communication between teacher and student. Achieving this requires some work on the part of the teacher.

As in any learning, understanding the criteria for assessment needs a facilitative context, practice and constant reinforcement. In the Fazey and Lawson (2001) study the teaching approach offered an environment which constantly addressed students' understanding of the assessment criteria. Although the criteria were thoroughly discussed at the start of the module there was no assumption that this was enough to enable students to understand their teachers' intentions of what that meant in practice. Varied practice with feedback (e.g. Fazey, J. & Parker, 2001), opportunities to test their understanding and consistent reiteration of explicit criteria were all used to reinforce or adjust students' understanding. The teaching staff worked hard to ensure that there were no tacit criteria that would be

used in the assessment of student performance although this was not easy. Although students' understanding of the relevant assessment criteria was not measured in this study, and was not the focus of the research, both the researchers (who taught the module) strongly felt that it was the teaching approach, rather than just the assessment method, had enabled students to be very clear about what they needed to do to be successful. Through the consistent reinforcement of the criteria, students trusted that the teachers were going to apply these criteria when judging their work and thus could confidently work towards meeting these. It is clear from the limited research that has investigated this issue, that a shared understanding has to emerge over a longer period of time than is often assumed to be the case. Both teachers and students have to put effort into the process but it is the teacher who must structure the learning context to enable this understanding to grow.

## **Conclusion**

Cross-culturally, many of the challenges of engaging students are the same. Motivating students through the provision of opportunities to study that are perceived as relevant, presented by teachers who are highly motivated to teach effectively and who *want* their students to be engaged with them at a higher level, appears to be a key process in both the UK and Trinidad. Teachers who work hard to explicitly communicate their expectations to students and who understand what it means to think at a higher level have students who meet challenges many would not believe they were capable of achieving.

Despite the current absence of empirical research into the engagement of students at UWI, early indications are that these students are demonstrating many of the achievement behaviours associated with self-determined motivation. Additionally, despite the challenges of employing a teaching staff from a wide-variety of contexts with no apparently consistent approach to teaching, both staff and students appear to very quickly be able to home-in on each others' levels of learning and approaches to teaching and learning. In the UK context (though not exclusively), one of the major problems was associated with the arrival of students who were not, and were unlikely to become,

interested in study at a higher level. My advice to those students was that they should consider both withdrawing and how they might better use their time and money (not an approved approach in a cash-strapped HE system). HE is not for everyone and the pain and embarrassment suffered by those who really do not want to be there can be avoided. However, the vast majority of students can be engaged and can be moved from a non-self determined to a self determined motivation or from a situation where they do not understand what is required of them, or how they might achieve it, to a well-informed, skilled position that then allows them to demonstrate their potential. This requires skilled, committed, self-determined teachers who can apply their own higher level thinking skills to their teaching.

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