Early Targeting of First Year Learning Expectations

Cecilia Andrews, School of Information Technology and Electrical Engineering
University of New South Wales at the Australian Defence Force Academy
Canberra, Australia, c.andrews@adfa.edu.au

Abstract

This paper describes an innovation in the application of learning contracts to promote an earlier, deeper and sustained understanding in students of the importance of taking responsibility for one’s learning and the consequences for their performance of absolving that responsibility.

The motivation of this innovation results from a study and practice of transformational learning theory (Mezirow, 1978) in a first year context and the observation that some of the experienced negative consequences of a transformational learning approach may be mitigated through a focus early in the semester on rigorous alignment of the expectations of the learning leader and of the students.

Through a process of systems thinking, active observation, and reflection, the author has developed an innovative approach to target first year learning expectations earlier through an interactive CD where the students build their own learning contracts.

Context

Engaging first year students with transformational learning approaches and critical thinking is difficult. There are a number of buffers in environment, expectations, and cognitive boundaries that limit the degree and speed with which engagement can occur.

Observation and practice over the last four years has found that the strongest buffer to early adoption of self-directed and transformational learning is misalignment of student and lecturer expectations around learning outcomes and processes in a University environment.

This paper stems from a perceived need to further align the expectations of first year Information Systems students and their lecturers at the Australian Defence Force Academy with the learning outcomes of their course. The author believes insight into the issues encountered with students making transition into transformational learning in first year can be found in the literature on leadership and life-long learning where issues of deep change are addressed within a social context.

The result of reflection on the last several years of our Information Systems curriculum (centred around transformational learning in first year and student-centred, peer-learning
practices), combined with insight gained from the transformational learning, leadership, lifelong learning, and first year experience literature, has led to the development of an innovative CD.

The CD is specifically designed to “awaken” first years to their role in taking responsibility for their learning before they start the course proper. The different levels of entry, ability and motivation to be engaged necessitate a more involving and equalising process early in students’ university careers. This process is facilitated by the CD innovation described in this paper.

This innovation extends the author’s research and practice in transformational learning as a pedagogical approach and research into Belief Systems and their evolution.

It is a premise of this paper that a method of evolution of group or individual Belief Systems is through transformational learning journeys. These journeys in the undergraduate context are fundamental experiences ideally supported by coherent educational practice. This practice therefore encompasses the preparedness of individuals and groups to reveal, reflect and reform frames of reference, habits of mind, values, behaviours, knowledge, and relationships (Belief Systems) towards individual and common purposes and, in the context of information systems undergraduate education, bring about intellectual and emotional maturity and drive independent learning processes.

First year Information Systems at UNSW@ADFA is divided into two subjects, one per semester. Each of these subjects is worth six credit points and is available to Science, Arts and Business degree undergraduates at the Academy. The first subject is Introduction to Information Systems, and it is this course that is the focus of discussion for this paper.

**Vision**

The vision, for the pedagogical approach to the first year experience in information systems, targets learning and awareness through exploration, analysis and reflection of beliefs, systems concepts, behaviours, and group dynamics. These activities are embedded within everyday problem solving and examination of the technology-human-organisation interfaces.

A particular focus during the first semester is on informal exploration of bounded rationality and personal construct theory through the lenses of teamwork and stakeholder analysis. This is viewed as a goal towards fundamental shifts in students’ frames of reference from preferences towards instructive learning to deep, inductive learning. Individual emancipation through freeing the student from the didactic learning paradigm towards a more credible and sustainable student-centred learning paradigm (within a social peer-learning context) is the model adopted. The assumption of the curriculum design and delivery paradigm is that this will assist students to become literate, responsible leaders within the larger community and within the Information Systems profession specifically. “Newman (2000, p. 273) concluded, through critical or
emancipatory learning, people gain a "meta-awareness" of themselves through which they can also come to understand others” (Willans et al., 2003).

**History and Motivation for this Innovation**

In previous incarnations of Introduction to Information Systems, a number of tools were overtly employed to engage students with the curriculum and its process. These tools were used to instigate the longer journey of transformational learning. Specifically, these included the use of a “Fundamentals” mini course in the first four weeks of semester 1, and a learning contract.

The Fundamentals course was designed to introduce students to scholarly writing, critical thinking, teamwork and leadership within a scholarly context, and problem solving techniques.

The learning contract was designed to inform students “up front” of the expectations for their involvement in the learning journey and the difficulties they might encounter and the behaviours they would need to embody to succeed in the course.

Naively, it was assumed that given the complete information about the course and an opportunity to develop basic university “survival” skills, the students would be able to, and want to, engage responsibly in the course process and the transformational journey. It was also assumed that any students who did not want to would leave the class and look for another subject more suited to their expectations. None of these assumptions were validated by the subsequent experience. Students signed the contract regardless of whether they even read it, let alone understood it, and they saw the fundamentals as a waste of time or worse an insult to their intelligence and “when were they going to start learning something?!”

Certainly the idea of the contract did not deter students from undertaking the course. What it did seem to produce was an even higher level of disgruntlement later in the course when, as the implications of the contract and the transformational journey on their marks became evident to them, they reported feelings of being tricked, “gypped” or “ripped off” by the lecturers. They understood that they had bound themselves to a contract and a journey, but when the journey became hard and the implications and risks immediately visible, they transferred their anger and resentment to the lecturers rather than taking emotional responsibility for their decision.

In hindsight, this was the inevitable outcome from these practices and resulted from the same old mistake made by the lecturers that they are trying to get the students not to make. When designing these elements for the course, the lecturers were still approaching the design from their own expectations and experiences, rather than from the students’ perspective.
The unmistakable lesson here was in the nature and use of power through communication and planning, albeit unintentionally. The students negotiation was still from a “no choice” basis. This is antithesis to the transformational learning approach desired.

“A transformative approach to learning would be contextually sensitive and actively responsive to the contexts in which the learning will occur.” (Merriam and Caffarella in Willans et al 2003.) The context here may well refer to student preparedness, language, belief systems around university and education, and capacity for the student to meet the demands of engagement emotionally and intellectually. Unfortunately, these factors cannot currently be determined, with the resources at hand, prior to the student enrolling in the course. It is also clearly not effective to engage in a generalised process that treats all students as having the same capacity to engage, which was assumed in the previous practice of learning contracts.

Clearly a solution was needed that is student generated/individually tailored with sufficient scaffolding and familiarity to support the student in “trying out” their role as an independent learner within a peer-learning context. The innovation discussed in this paper attempts to provide exactly that solution.

**CD: Team Random**

The innovation is to create a take home CD with interactive activities and youth-targeted imagery and text that provides an opportunity for the student to discover their learning preferences, teamwork and leadership styles, and grades objectives and that other people have different ones. Furthermore, the CD challenges the student to reflect on their own “profile” and the learning objectives of the IS course as it relates to their characteristics, and to develop a game plan to “show off” their perceived strengths and develop their perceived weaknesses.

The Game plan challenge is worth marks to the student (30%), the grade level aimed at is negotiated directly with the lecturer within a framework of a number of evaluation criteria and finalised in a learning contract for the semester.

Importantly for Generation Y, the CD is about them. It is about identity-based discovery rather than facts-based discovery and starts from a viewpoint of role rather than knowledge. Given the predisposition of young adults to be critical around identity it seems natural to start from this basis before moving to critical reflection of belief and finally of knowledge.

The text of the CD and the format of the contents are both visually and intellectually accessible to the student. The use of plain, everyday language and phrasing is deliberately designed to build a sense of rapport with the audience rather than distancing the student through academic lexica.

It is through the development of rapport that trust and relationship can be built. Without trust and relationship, no sensible intelligent human being would assign credibility to the
critical examination of identity and assumptions. It is insufficient to rely on the constructs of the institution in this case, this must be developed on a personal basis.

To motivate strategic learners, it is important to provide a motivation they understand – marks – before changing their motivation. This provides the initial impetus to begin the journey without overshadowing its destination. This is achieved through the use of the challenge. Yes the student may be doing the activity because it is worth marks, however the challenge changes the motivation towards quality and achievement through pride rather than compliance. “Show me what you can do!” Appealing again to the particular qualities of the young audience.

In completing each step, the student becomes more aware of the drivers for success in the IS classroom and how they can best focus their energies to align with them (as well as indirectly becoming more prepared for the transformational journey they are about to embark on). It is then up to them to specify what those changes will be and the rewards they can expect from undertaking them within a framework designed to provide confidence in how to do that. This forms the basis of negotiation with the lecturer to finalise the learning contract for the semester. It is in this way – with the first step of transformation being taken by the student in the way that they want to take it, that it is hoped that the emotional overhead associated with transformational learning during the first semester can be moderated.

Scaffolding

Obviously there needs to be some criteria to support the evaluation of the student’s achievements that is consistent and recognises the course learning objectives. It is not, in my view, conducive to effective transformational learning to set up discriminating criteria as this creates a competitive driver that overshadows the journey in favour of marks. As such, the criteria for evaluation are linked to the main themes of the CD and the three characteristics of a good IS system- efficient, effective, acceptable:

1. Effectiveness of challenge through:
   i. Evidence of change in learning preference towards a broader profile
   ii. Capability for reflective practice has increased
      (Learning objective 1)

2. Efficiency of challenge through:
   i. Relevant and critical use of resources, including time, to learning goals expected vs. achieved for each item (specifically developed in the individual’s learning contract)
      (Learning objective 2)

3. Acceptability of challenge through:
   i. Evidence of change in teamwork profile towards a broader profile basis
   ii. Evidence of peer acceptance and involvement in challenge and evidence in support of contribution to classroom citizenship.
      (Learning objective 3)
In providing a broad set of evaluation criteria such as this, it is up to the student to provide the evidence rather than the lecturer to find the evidence. Once again, this supports the role of the student at the centre of their learning and places both motivation and responsibility squarely in the student’s court. At the same time it focuses the student on developing a challenge towards meeting the learning objectives of the CD and the course – and aligning the student’s expectations within the context of their peers, to those of the lecturer right from the beginning of the course: not through power and position but through student-initiated transformational learning.

Theoretical basis

The Inputs: Agents for Lifelong Learning

Lifelong learning, or the ability to adapt, respond, create, innovate and develop new behaviours as well as new knowledge is the desirable outcome resulting from transformational learning events. Some of the agents to change identified in the lifelong learning literature were identified as being useful for moulding and triggering transformational learning events. These agents are identified in the discussion below.

Firstly we must examine how education in the University can contribute to Lifelong Learning. Working life for students expecting to graduate from University increasingly demands a broader range of skills and the ability to communicate effectively beyond their specialisation. Factors driving these demands include the increased “pace of change, increase of complexity, [and] greater cost of failure” (Vaill, 1999). Boud et al (1999) suggests that educators are encouraged to deliver courses focussed on developing what are variously termed by a number of authors as graduate attributes, transferable skills, key competencies, generic attributes or capabilities – “These are being conceptualised as part of a repertoire of skills and strategies to foster lifelong learning.” (Boud et al., 1999).

It is the goal of our education to foster these graduate attributes and the UNSW Graduate Attributes inform every assessable learning activity and the learning outcomes for Introduction to Information Systems.

As an institution that fosters leadership, the nexus of leadership and learning is of high importance in informing the Introduction to Information Systems curriculum. As IS professionals, and as officers, our students will be immersed in leadership roles in the Defence organization. Elkins (2003) found an interrelationship between leadership, learning, social effectiveness and organizational success – “team learning flows out of individual learning and is another competency emphasized in the learning organization.” Elkins believes that the learning organization can best be achieved through an environment supporting open dialogue and inquiry. “This does not demand a conflict-free process but requires open, mature sharing of views with respectful appreciation for differences of opinion.” (Elkins, 2003).

So to create this environment, students must be able to participate safely in critical dialogue and inquiry. Firstly, they must understand what that actually means and how to do it, and secondly how to act and continue if the process becomes uncomfortable. These
are not necessarily innate skills in first year students, and in fact, through observation, they tend to arise through experience in workplaces rather than secondary schools (where the majority of our students are coming from.)

Obviously these skills develop with practice and feedback, however to engage in the first place- or even appreciate what is going on- a little preparation is needed. This preparation is provided in the CD in simple language backed up by resources and a lot of metaphor. Giving a similar reference point to students frees them to bring their experiences to the fore and apply them in this new situation. This gives students a starting point in engaging in transformational learning and the agents of graduate attributes provide a context for that engagement.

The Process and Outcome: Transformational Learning

For graduates to engage successfully in transformational learning they must have already learnt how to learn. “That learning to learn is a skill that exists far beyond academic boundaries is “evident from the research conducted on practical intelligence and everyday cognition in settings and activities as diverse as grocery shopping and betting shops” (Brookfield, 1991).

In the context of the Australian Defence Forces, and particularly the challenges presented to contemporary officers by terrorism and asymmetrical warfare, being able to learn effectively, efficiently, and with a sensitive understanding of people and context is of the utmost concern.

“The case has been made about the importance of learning as a foundational element in effective leadership… It may make more sense to say that in the present world, leadership is not learned but rather that it is learning” (Vaill, 1999). This then shows that not only is leadership necessary to trigger transformational learning events as discussed above, it is also an outcome of transformation. This outcome is particularly important to ADFA, whose purpose is to produce Defence Force leaders.

Enduring profound personal change (transformational change) is precisely what gives leaders the capability to support others in engaging in a peer-learning environment, and it also supports self-motivation for learning.

Brown and Posner (2001) believe that Transformational Learning Theory can be used to assess, strengthen, and create leadership development programs that develop transformational leaders. Elkins (2003) says “This kind of transformation is what Beatty and Ulrich (1991) call “deep change,” that is, change in which deeply held values, beliefs, and assumptions are challenged and modified”.

To engage in a transformational learning journey with their peers, students need to understand their own leadership and learning preferences as well as the diversity of those around them and be able to affect changes in themselves and possibly inspire change in others.
The Team Random CD provides an opportunity for students to explore and reflect on their own preferences for learning and leadership and their goals for the course within the context of working in teams.

Once again, this is about providing students with a starting point of concepts and language to begin understanding the changes they will be subsequently experiencing throughout the semester.

The original intention of Transformational Learning Theory was to provide a proposition "that can explain how adult learners make sense or meaning of their experiences, the nature of the structures that influence the way they construe experience, the dynamics involved in modifying meanings, and the way the structures of meaning themselves undergo changes when learners find them to be dysfunctional" (Mezirow, 1991, p.xii) I have found that, as a first year educator, I need to provide the foundational language, the shape and direction of the process, and the end goals as early as possible, and reinforce those concepts throughout the course, to trigger sense making in my students. The Team Random CD is about supporting that endeavour. It gives words to feelings and understanding to fear.

Freire in Elkins(2003) describes the process of conscientization, by which adults “achieve deepening awareness of both sociocultural reality which shapes their lives and their capacity to transform that reality through action upon it” (p. 16). Transformational learning emerges from: the critical exploration of self and others through dialogue and reflection; first hand experiences of affective change by self and others; and embedded in supportive, trusting relationships. It is the building of a “self-conscious awareness of how it is [students] come to know what they know; an awareness of the reasoning, assumptions, evidence and justifications that underlie our beliefs that something is true” (Brookfield, 1991). Conscientization, at the core of transformation learning, cannot begin in earnest until there is an understanding and willingness to proceed. This comes from having words and real experience in knowing oneself. This is a big ask for some 17 or 18 year olds (sometimes younger) and having a helping hand on the first step can smooth the beginning of the journey.

Transformational Learning Journey and the role of Peers

Willans et al. (2003) describe transformational learning as a journey that is the special role of University education. “As the students travel from the concrete, private and spontaneous world from which they have come, they journey on to the more abstract and theoretical writing, an inevitable trademark of a university education.”

Brookfield (1992) reveals the myths associated with this journey: ‘that adult learning is inherently joyful, that adults are innately self-directed learners, that good educational practice always meets the needs articulated by learners themselves.”

Assuming that transformational learning is good educational practice, one would extrapolate from these myths that the educational journey engaged in by students and
lecturers alike would be highly pleasurable for all concerned and uniquely fulfilling. The real experience however, is far from this. It is a much more human endeavour.

One of the significant findings in practice of transformational learning in the first year IS classroom over the preceding three years has been the emotional rhythm of that journey in students.

Particularly in the first semester, the students as a class started as keen interested and highly motivated individuals. By about week 4, the class had split into 2 parts, with the high achievers becoming angry and frustrated and railing against the process, and the rest of the class maintaining a high level of compliance and satisfaction generally. By week 8, the class had split into three parts, and it is generally at this time that the emotional overhead of the process for the lecturers was at its highest. The three parts were: the high achievers, which by now had fully engaged in the process and had generally accelerated in their learning journey especially in the critically reflective components; the “average” students who by now were frustrated, worried, confused and experiencing some intellectual pain; and a minority that were actively disengaging from the class.

The interesting thing about this minority group that has been observed over the last three years has been the tendency for these students to influence the “average” students wellbeing socially more so than the high achievers. This has led to mini-revolutions in the class against the learning method and its consequences led by a few very angry and highly resistant students. It must be said that these students are highly intelligent students generally, but are so engrained in their ideas of how the world must be that the process of revealing the fragility of their worldview is anathema and subsequently they strike out emotionally at the perceived cause of their pain, the lecturers, by stirring up the class. These students are also generally high scoring in Challenging the Process as a leadership style.

By the end of the first semester, the first two groups have engaged with the material and demonstrate the outcomes one would expect from the first steps towards deep change. The last group tend to have been toppled in their attempts to undermine the class by the “average” group who take a strategic decision at about week 9 or 10 to make the jump towards self directed learning in the hopes of getting high marks. The “resistant” group are left abashed but unpentant usually. We do lose some of these students at the year’s halfway point, but others do continue into second semester where they generally adopt a minimalist approach to the workload – a kind of passive resistance.

This highlights the importance of social learning and the role of peers in the transformational learning journeys of individuals. In developing an innovation that supports preparedness for the transformational learning journey, the role of the students’ peers must be catered for. “In a very important sense we construct our experience: how we sense and interpret what happens to us and to the world around us is a function of structures of understanding and perceptual filters that are so culturally embedded that we are scarcely aware of their existence or operation.” (Brookfield, 1991)
In the same way that a student becomes critically aware that their ideas and frames of reference have been socially embedded, it is also useful to create opportunities for new learning embedded in a social context.

Peer learning, in particular at the tertiary level, is an important catalyst for effective social learning environments. In Information Systems we use what Boud et al. (1999) call reciprocal peer learning. “In reciprocal peer learning students within a given cohort act as both teachers and learners.” Peer learning is a reagent for transformational learning events by providing a student with accessible and “credible” evidence of differences in frames of reference and thought processes. This provides students with ready-made alternatives to their own constructs in a way that is perhaps more profoundly experienced due to the complex emotional and social connections and relationships involved rather than the purely intellectual experience of literature review or lecturer-provided “facts”.

This tends to be a confronting experience for many of our first year students who may believe that they understand the “rightness” of the world given their previous success. Kelly (1963) in personal construct theory proposes: “We assume that all of our present interpretations of the universe are subject to revision or replacement... There are always some alternative constructions available to choose among in dealing with the world.” Unfortunately first year information systems students do not necessarily come ready with this assumption or even prepared to accept this assumption.

I propose that it is the role of the first year university experience to bring the students to a level of acceptance of this assumption in order to build other analytical and synthetical skills. An important way of achieving this is through students’ first hand experience of the different frames of reference of their peers – not just the lecturers. The CD, through examining their relationship with Peers, bring students to a point where they can be ready to investigate the validity of this assumption through communicating how learning and leadership styles can be different and how grades objectives can be different. It also explains how this can be used to increase the success of both the student and their team.

**Conclusion**

The CD provides the very earliest opportunity to align the expectations of the students and the learning leaders as to the nature and process of the transformational learning journey ahead of them in Introduction to Information Systems. By using familiar signposts and accessible metaphors, complex constructs required to engage in transformational learning can be introduced to students in a way they can accept and can prepare them to take the first step of the journey on their own. This provides a rigorous rhythm right from the very beginning that encourages students to take up the responsibility of their own learning and mitigates the risk of disruptive growing pains late in the first semester stemming from insufficient engagement with the learning practice and misalignment of student and lecturer expectations.

The Team Random CD provides not only the concepts and terminology, but also process and motivation for students to critically analyze their own position and the position of others in their team; beginning the transformational learning journey.
References


