

5. Reflection-in-action: Using Experience to Reconstruct Meaning in a Learning Environment in the Project Management Theory Module

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Context and Theoretical Framework

Project Management education in the 3rd year module of the Information Systems programme at the University of Cape Town has been changed to make the student experience more true to life, and to also change emphasis to allow for the development of a project practitioner. There are a number of motives for these changes. Firstly, for a number of years project management education focussed primarily on teaching best practice and focussed mostly on the Project Manager. This remains the trend nationally and internationally. While teaching slavishly promotes best practice, the research community engages vigorously about a lack of underlying theory that the discipline suffers from. Also reported in the literature are a number of discussions on how organisations are increasingly project driven in the ICT sector; a trend which needs to be met with ICT personnel possessing a range of capabilities other than being instrumental technicians. In accordance with these two themes the module now focuses on the development of an Information Systems project practitioner.

Over the last two years the module has been transformed to give learners an initial discourse in project practice. The focus of the module is to teach students about learning and how to fuse practical experiences on projects with theoretical concepts to grow competence. The theoretical concepts are aimed at moving students from, a mostly instrumental, positivist frame to an interpretive frame which embraces learning, the understanding of personal agency, being conscious of group maturity, being aware of the stages of adult learning and the social nature of projects.

The Information Systems discipline has evolved at post graduate levels to embrace a more qualitative and interpretive stance, instead of a traditionally positivist stance. This has resulted from the discipline accepting that Information Systems phenomena are primarily social with technical implications. There is recognition that undergraduate teaching has to follow this trend. However, for almost a decade now this realisation has not been sufficiently embraced, and is perhaps a cause for the current decline in student numbers. The project management theory module is a candidate to demonstrate how to embrace a different Information Systems identity. Although the module is still evolving, and much more can be done, there is evidence that students are enjoying this change in emphasis, and are finding this learning experience useful. There is also evidence that the research community are keenly interested in what we are doing.

The modern day trend of project driven organisations creates a need to understand the knowledge, skills and competencies relevant to practicing project managers. The traditional set of best practice recommendations for project management that focuses on planning, organising, coordinating and control, no longer suffices. These formal practices neither accommodate nor capture the complexities of the political and social culture of an organisation. Nor do they allow for the intricacies of interpersonal understanding, relationships and collaboration (Cicmil, 2006).

The capstone course completed by third year students majoring in Information Systems comprises a systems development group project, which combines the theoretical elements of project management with the practical implementation of these concepts. Over the last two years the project management module of the systems development group project has been transformed to provide students with a more appropriate discourse in project practice. The new approach extends beyond the teaching of best practice, to focus on the acquisition of competencies through reflexive learning - the “circuitous, self-revisiting” activities undertaken in the quest for a better understanding in a complex environment of individuals, communities and cultures (McPherson, 2005; Sewchurran, 2008).

The systems development group project is used to guide students through a “lived” project experience fusing practical experiences with theoretical concepts to grow competence. The “growing of competence” is underpinned by the stages of skills development as proposed by Cicmil (2006). Cicmil (2006) presents a five stage competency development path which outlines the development of project managers along the stages of: novice, advanced beginner, competent performer, proficient performer, and expert or virtuoso. This model is derived from the seven-stage model of adult learning described by Dreyfus (2004), where skill acquisition starts out with a novice being unconscious of the level of incompetence, who then transcends to a level of consciousness about incompetence, and then goes on to become consciously competent, to finally becoming unconsciously competent.

The first three of Cicmil’s stages (novice, advanced beginner and competent performer) encompass the application of prescriptive, context-independent knowledge and rules. At this stage, project management education mostly comprises discussions and exercises based on the conventional Project Management body of knowledge as prescribed by PMBoK® (Pmi, 2004). As a novice gains more experience, they develop the ability to contextualize information and become advanced beginners. Although an advanced beginner still often uses a trial-and-error approach, he or she is able to identify and “make sense” of current situations in terms of relevant information based on previous experiences. However, as the amount of experience increases, the assimilation of large volumes of information causes a need for prioritisation and more effective organisation. At this stage the advanced beginner transcends to become a competent performer involved in his or her environment, exhibiting confidence in devising goals and plans that will assist in decision making and risk taking (Cicmil, 2006). In the last two stages of proficient performer and expert or virtuoso, the project practitioner moves away from rules and universal solutions towards a reflective understanding and participation in power relations. The expert project practitioner acts intuitively with vision and insight, and may be unaware that his or her competence levels are continuously enhanced by reflective learning (Cicmil, 2006).

Educational Challenges

Cognitive structures are created and re-created in an infinite cycle through recurrent practices. This explains why there is no difference between doing and knowing and knowing and doing; since the embodied mind anticipates an already known world (Maturana & Varela, 1980).

Experiences are classified within our memory by using a system of concepts, analogies and metaphors. Through these, human beings are able to conjure up a range of cognitive responses, which in turn trigger a range of bodily responses stored as cognitive structures (Varela, Thompson, & Rosch, 1993; Llewelyn, 2003; Raelin, 2007)

It is possible to develop an understanding of situated action using concepts, analogies and metaphors to negotiate experiences. At the initial stages of learning and practice, the relation between mental intention and bodily act is quite underdeveloped - one may know what to do mentally, but may not be able to physically execute intention. As one practices, the explicit connection between intention and act eventually disappears as they merge into one state. This state of en-action can be described as neither mental, nor physical but a specific kind of mind-body unity (Varela, Thompson & Rosch, 1993:19).

Students therefore need to understand that acquisition of project practice competence involves reflection to ground tacit experiences with relevant concepts instead of learning “thought” practices which have to be rigidly applied. The grounding of experiences to understand the potency of communication, interpersonal relating and the agency of wider social structures is the outline of the discourse that needs to be acquired. The knowledge of best practices should be regarded as just particular views to understand practice. The challenge in education of project practitioners is to thus craft exercises to impart relevant concepts, develop exercises to give students specific forms experience and to tactfully design reflection at specific points to harness fusing experience with relevant concepts.

Implementation

The course starts with understanding of what is typically regarded as project practice and the concerns with practice. Over several weeks students are given conceptual readings on topics such as the transformative effective of communication, analogies of experiences on projects, methodological concepts etc. Students engage in groups and present these readings to the class. The lecture normal entails a presentation by the students and a class debate on the ideas facilitated by the lecturer. Once all the presentations are completed a guided reflection exercise is given to the students as a tutorial session. At the beginning of the term the students are also given a term project which is an essay based on experiences that cover the various concepts. The readings are used as theoretical lenses to stimulate reflection and provide students with the necessary concepts to relate their most significant experiences in the first half of the project, thus bringing them closer to a state of en-action.

Reflection

The authors awaited the outcome of this written reflective exercise with keen interest. The positive and honest accounts in which students related their experiences and made the content their own were both enlightening and refreshing. One student reported: “I have gained wisdom both about project management and about myself”. Another concluded that: “It is through this combination of theory and practice that the student will, in time, move from being knowledgeable to being wise”.

The intervention helped the students appreciate how much of experience in projects is actually about the complex inter-relating processes, rather than adhering to best

practice models. Students also gained confidence in learning informally through reflection. The true value of this reflexive exercise is best described in the words of one of the students: “My weaknesses are complemented by others strength, and through this I can discover my weaknesses, build my strengths and build emotional intelligence through working in a group setting. Walking away from the project without realizing and documenting the growth experience would inhibit future growth because wisdom and mistakes from past experiences haven’t been fully understood”.

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