Project management learning: Key dimensions and saliency from student experiences

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Abstract

Drawing upon literature, this study seeks to understand what the key dimensions of student experiences of project management learning are and what saliences students attach to such dimensions. Data is obtained from a sample of management and engineering students studying project management across four universities in the United Kingdom. We employ multidimensional scaling to extract the salience placed by students on the key dimensions. The results of the data analysis suggest that there are six dimensions of student experiences of project management. We also find that students attach markedly different levels of salience to these dimensions based on a number of demographic factors. More specifically, in terms of salience, we found that gender had the strongest relationship while prior experience of project management had the weakest. The implications of our findings are discussed from the perspective of andragogical congruence (compatibility) in teaching and learning.

1. Introduction

'Project Management' remains a very popular management concept due to its emphasis on management control in discontinuous and chaotic business environments (Bryde, 2003). Project managers remain vital in the transformation process of most organisations (Paton et al., 2010) although scholars such as Lenfle and Loch (2010) have questioned how project management can ensure real value in delivering change, especially when one notes the high failure rates of projects. The role that project managers play in delivering change has made the issue of teaching and learning and specifically andragogy,[1] a topic of sustained research interest in project management scholarship (see Ashleigh et al.,

2012; Berggren and Soderlund, 2008; Chipulu et al., 2011; Ojiako et al., 2011a,b, 2013; Pant and Baroudi, 2008). At the heart of challenges faced by this discourse is that project management is contextualized within a control perspective (Koskela and Howell, 2008; Mir and Pinnington, 2014; Ojiako et al., 2011b), which suggests that the future can successfully be predicted with available data (Berry et al., 2009; Herath, 2007), reducing phenomena to simple cause and effect relationships. Such 'cause and effect' relationships, imply not only a rigid utilisation of project management methodologies but also a rigid control and measurement (assessment) of outputs (Williams, 2005); in effect, an instrumental ideology (Lenfle and Loch, 2010; Soderlund, 2011) with an easily attributable link between the decisions made by project managers and project (or task) outcomes. It also implies that the project manager role is primarily that of a 'control' manager with limited decision making power. Management 'control' has implications for the training and education of project managers; the ability of project managers to exercise effective control over projects is a function of their competency as managers. This is why

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[1] Although it remains popular to discuss teaching and learning within higher institutions under the popular terminology of 'pedagogy', in this paper, we use the more appropriate term of andragogy which refers to the strategy of adult learning (see Davenport and Davenport, 1985; Knowles, 1968).

the learning process is seen as central to the management control philosophy (Hult et al., 2003). Cognizant of this implication, scholars have either called for (i) greater emphasis on matching project managers to projects (Malach-Pines et al., 2009; Patankul et al., 2007), although this tends to rely heavily on selection to meet staffing demands in projects. This is because, as we pointed out in the earlier review of the 'input control' philosophy, on the surface, it may appear more cost effective to recruit experienced project staff than to develop them. The trouble with this approach is that project task requirements are likely to change over different stages of the project (even in relatively stable projects). In addition to calls for matching project managers to projects, learning is also key to management control philosophy in that the need and level of management control make demands on project managers to acquire and maintain a level of leadership skills that is not only situational (Barber and Warn, 2005; Lee-Kelley, 2002), but also most likely to support the achievement of project outcomes which are strategic in nature (Turner and Muller, 2005).

Given that project management is clearly important within organisations, and specifically salient in operational processes, this paper aims to contribute to the body of knowledge on the teaching and learning of project management which has been in development over a number of years. Under such a learning paradigm, there has been a growing interest among various stakeholders (students, industry and the profession) in how to best articulate an agenda for learning. Such an agenda will however require aggregating student learning and success. Such an aggregation may facilitate confirmation that students are achieving the desired learning outcomes.

In this study, our particular focus is on understanding what the key dimensions of students' experiences of project management learning are and what saliences (relative importance), students attach to such dimensions. In order to achieve this objective, the rest of this paper is organised as follows. Following this introduction, in Section 2 a review relevant literature on project management andragogy is undertaken. Literature will show that on-going discourse on project management andragogy not only faces considerable challenges studying learning styles, but also has not given a significant voice to the experiences and expectations of students. In Section 3, we present our research methodology which is undertaken utilising 3-way Multidimensional Scaling (MDS). In Section 4 the results of the data analysis are discussed. Here, we show the salience both sets of students attach to the six dimensions of student experiences of project management that emerged from Section 3. Most importantly, we find that gender specific differences had the strongest relationship with the six dimensions. In the penultimate section of the paper, we discuss the implications of the findings, suggesting that there is a need for a gender responsive andragogical imperative in the teaching and learning of project management. We conclude the paper in Section 6 by outlining the contributions of our research and suggestions for further work.

2. Review of literature

Organisation's generally utilise management development or training to ensure that desired behaviours align with expectations (and so increase project success rates). Management development is conceived by scholars (Gale and Brown, 2003; Kirkbride, 2003; Paauwe and Williams, 2001), as the training, education and exposure of managers to ideas and *tacit* knowledge that facilitates their acquisition of new skills and behaviours that are of value to the firm. Tacit knowledge is defined as subjective knowledge that is 'based on individual experiences' (Anand et al., 2010; p. 304). Training, on the other hand, is a formal form of instruction, encompassing broad categories comprising technical and interpersonal skills' acquisition (Buckley and Caple, 2007). To study skills' acquisition fully, it is necessary that learning styles are fully comprehended. This is why the question '*what are the key dimensions of learning styles?*' remains of interest to a number of scholars seeking to improve skills' acquisition in the field of project management (Pant and Baroudi, 2008; Thomas and Mengel, 2008).

The imperatives associated with teaching and learning of project management were highlighted as a major theme of interest during the debate on "Rethinking project management" (Cicmil et al., 2006; Winter et al., 2006) and have attracted the interest of a number of scholars including Geist and Myers (2007), Berggren and Soderlund (2008), Pant and Baroudi (2008), Paton et al. (2010), Chipulu et al. (2011), Ojiako et al. (2011a,b, 2013) and Ashleigh et al. (2012). Specifically Geist and Myers (2007) drew upon a combination of teaching and learning and project management literature to suggest that best practice in the teaching of project management involves a novel and harmonious conjunction of practical activity and theory building teaching and learning approaches. Conversely, Berggren and Soderlund (2008) developed a model based on six distinct, but dependent learning modes that emphasised interaction as a learning practice. In a similar light, Pant and Baroudi (2008), examined current trends in the teaching and learning project management suggesting that education in project management still appeared to emphasise the development of hard skills at the expense of softer skills.

Although these studies all contribute significantly to on-going discourse on teaching and learning in project management, they do not seek to interrogate or give a voice to other major stakeholder in this discourse; employers (industry) and students. For example, from an industry perspective, Chipulu et al. (2013) analysed the contents of over two thousand online job project management advertisements across eight countries, reporting that industry placed an emphasis on hiring project managers who demonstrated softer skills than those with 'harder' and technical skills during recruitment. From a review of the few studies (Ashleigh et al., 2012; Chipulu et al., 2011; Ojiako et al., 2011a) that have sought to explore project management andragogy from the students perspective and in the process give students a 'voice' in the on-going discourse, we can posit the following; (i) Project management, in a number of cases, especially in institutions of higher education continues to be taught at the same level as both certificate and commercial project management training programmes (Crawford et al., 2006), (ii) Relatively few academics in the field of project management have real experience or can seamlessly bridge the academic-practitioner divide (Geist and Myers, 2007), (iii) The blending of theory and activity based learning techniques that facilitates effective