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When 'knowing what' is not enough: Role of organised simulations for developing effective practice

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Abstract

A decade on from the *Rethinking Project Management* (PM) network, concerns about the relevance gap continue with a number of multinationals looking explicitly to alternative strategies and forms of PM staff development. The literature is light on how project simulations can help the development of experienced managers as reflective experts. Few have examined the link between intended learning outcomes and real-time performance. Posing the question of "how easily is knowledge developed in the classroom transformed into effective practice?" the paper presents a chronological account of a 3-day simulated project by 25 experienced managers. Despite their prior experience and learning from shared problem-solving and structured reflections, participants struggled to deliver their projects as planned. Analysis referencing the knowledge epistemology and ambidexterity literatures yielded a number of design improvement opportunities and the insight that closing the knowing-doing gap requires courses to incorporate the 'soft' perceptual and attitudinal aspects underlying *why* people fail to convert their learning into effective practice.

Keywords: Project education; Project simulation; Experiential learning; Actionable knowledge; Reflective practice; Ambidexterity

1. Executive summary

The problem for those of us in management education is that industry remains uncertain about the practical value of academic teaching. This paper examines the extent of classroom learning for 'real-time' problem solving by directly observing an established simulated project. 25 experienced managers participated in 5 teams over 3 days. Simulation results were paradoxical in that all the teams struggled to perform against their own plans. Chronological scrutiny of the data found evidence of learning and knowledge production at both individual and team level. Teams were also able to draw upon their personal & combined stores of tacit and explicit knowledge to tackle problems early on in the simulation but not *after* manipulations by the facilitator.

Further analysis to isolate underlying reasons for the anomaly judged the learning framework for the simulation to be robust and reported a number of design improvements; namely, (1) linking the module-level learning outcomes to the simulation learning cycles, (2) allowing students to repeat the same simulation after a short break, (3) giving project finance greater prominence in the programme and (4) incorporating PM software (such as scheduling, risk and cash management) into the simulation process for quicker updates and help students keep pace with iteration lead-times. In conclusion, organised simulations are a useful platform for interaction and experiential learning but the transition from merely knowing what to effective practice is personal and complex, requiring further investigation and understanding.

2. Introduction

This paper's interest is in the extent to which organised simulations can support practical learning and reflective application by project managers. As projects have become the central mechanism for delivering strategic objectives and organisational benefits, managers are under increasing pressure to be better prepared. The project profession (e.g. APM - Association for Project Management; PMI - Project Management Institute) clearly expects its practitioners to apply their "knowledge, skills, tools and

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techniques to project activities to meet project requirements" (PMI, 2013:554). However, many managers from a variety of non-project disciplines would arrive at their projects with limited prior exposure (Palm and Lindahl, 2015). Observations by Cheetham and Chivers (2001) and Savelsbergh et al. (2016) noted that professional development for project managers tends to be largely unstructured and emergent. The question of the timing and manner of project management (PM) knowledge and competence development is particularly relevant when organisations juggling between the twin requirement for efficiency and innovation appear uncertain about the value of classroom knowledge. Many organisations are actively seeking alternative strategies to develop their PM staff. For example, BAE, Rolls Royce, Shell, Thales and the UK Ministry of Defence Equipment and Support (DE&S) have already established some form of in-house PM academy or centre of PM excellence. Instead of automatically releasing their project staff to attend a traditional PM course at a university or further education college, a range of in-house training options are being considered; one of which is the use of experienced practitioner-trainers to prepare managers for certification by a relevant PM professional body. Organisation-specific cases are favoured because they allow evaluation and analysis of commercially sensitive problems with a view to producing solutions that are relevant and aligned with the organisation's policy and chosen PM framework. Thales Group's new learning strategy is based on a 70% ('on the job' experience), 20% (social learning) and 10% (traditional education) split. It reflects strongly, industry's reducing reliance on formal PM education. These developments, when juxtaposed against the academic preference for rigorous research and generalizable theories, reveal a persisting gulf between teaching and application in management education (Boyer, 1992; Starkey and Madan, 2001).

The *Rethinking Project Management* initiative did much to promote debate and encourage greater rigour and relevance on PM research and teaching. Two articles drove much of that agenda: (1) Crawford et al. (2006:624) argued that much of the mainstream learning and development of PM managers fell "short of the reality of ….complex projects"; (2) Winter et al. (2006:642) identified the need for learning and development to be capable of facilitating the development of "reflective practitioners who can learn, operate and adapt effectively in complex project environments." The consensus from the *Rethinking* debate is that experiential learning is a vital part of "our own practice and our own attempts to improve management learning" (Berggren and Söderlund 2008: 287). Just as Schulz (2005) had criticised the social and experiential learning literatures for their silence on the practicality of *how* learning can be designed and realised quickly by people working in complex and dynamic contexts, Berggren and Söderlund noted the need to examine *how* to improve PM education. It has been nearly a decade since authors such as Alam et al. (2008) rated industry-led professional PM development over traditional academic programmes. A quick review of the published brochures and websites of academic institutions offering PM courses found that institutions have worked hard to raise awareness of project complexity and provide a learning environment that is conducive for situated learning and knowledge co-production. Design of courses appear more innovative and contextual, and inductive teaching processes such as case study, role play and simulation are said to be used to support the melding of tacit and explicit knowledge. Yet, as mentioned earlier, the trend in industry is to assume greater control over their staff's professional development. While fully acknowledging the importance of interaction and reflection, the language of organisations and the PM profession continues to revolve around experience and practical competencies. Hence, this paper argues that educators should re-visit their value proposition (Schön, 1995) for this highly delivery-centric industry.

The motivation for the study is the persisting issue of academic relevance. The PM literature has yet to address the question of *how* higher education PM courses can help managers derive solutions that have true utility in the workplace. In line with the acknowledged role of experiential learning, the context for this research is the simulated project. Although simulations are frequently used in formal education as an immersive tool to encourage sharing and mutual learning (Hallinger and Bridges, 2007; Salas et al., 2009), close examination of the fit between intended learning outcomes and real-time performance is scant. Posing the question, "how easily is knowledge developed in the classroom transformed into effective practice?" the study reappraises the extent to which formal simulations can create 'actionable knowledge' - a major theme at the 2004 Academy of Management Conference (Cummings and Jones, 2004). Target participants are mature project managers who can bring their stores of knowledge from prior experiences to the task (per Dreyfus and Dreyfus, 1986 and Cook and Brown, 1999). Research at a fine-grained level on the interplay between prior experience, classroom interaction, capability development and application will advance theory and inform teaching practice. The study will also have practical relevance for those involved in supervising, facilitating and undertaking workplace team learning.

In what follows, salient literatures are reviewed and discussed, starting with the axiom that experience, knowledge and learning are inextricably related. This is followed by Cook and Brown's (1999) framework of knowledge epistemologies to determine knowledge transition from a personal property to the group and creation of additional (tacit and explicit) knowledge from reflection of collaborative 'knowing as action' (p383). The literature review ends with the concept of ambidexterity as a capability (Turner et al., 2016) to evaluate the quality of problem-solving by simulation participants. The methodology section explains the role of simulations in formal education and presents an in-depth description of the case simulation, including processes for critical reflection by participants. Findings are then presented and discussed. The paper closes with a reflection on possible improvements in simulation design and invitation to learned colleagues for further input into this important but under-researched topic.

3. Literature review

The section starts with the learning and knowledge literature before introducing the knowledge epistemology concept. It ends with a review of the ambidexterity literature on managerial

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