

Preparing project managers to deal with complexity – Advanced project management education ^{☆,☆☆}

Janice Thomas ^{a,*}, Thomas Mengel ^b

^a *Centre for Innovative Management, Athabasca University, c/o 96 Manyhorses Drive, Redwood Meadows, Alta, Canada*

^b *Renaissance College, University of New Brunswick, Canada*

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Abstract

Interest in project management is growing significantly. Yet, projects continue to fail at an astonishing rate. At the same time, the role complexity, chaos and uncertainty play within our projects and project environments is gaining recognition in both research and practice. Hence, it is time to review our understanding of project management education and reflect about how we develop project managers to deal with the increasing level of complexity, chaos, and uncertainty in project environments.

In this paper, we discuss new perspectives and concepts for an advanced level of project management education that may help develop the abilities necessary to confidently navigate the dynamic organizational environments and complex projects facing project managers today. First, we describe the evolution of project management and project management education. In particular, our review of the literature and of project management training programs demonstrates the focus on standardization of the field and on preparation for the professional designation of project managers. Next, we discuss the impact of taking complexity seriously on the requirements for professional development of project managers. We lay out the requirements for preparing project managers to deal with complexity and present a comprehensive model of project manager development. Finally, we discuss the characteristics of an appropriate framework of project management education that does embrace uncertainty and unknown possibilities. In particular, we examine how distance-based education in project management may help develop a learning community that collaboratively questions existing theory and practice and develops innovative approaches as well as caters to the needs of project management practitioners for extensive learning opportunities within a flexible learning environment.

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1. Introduction

Interest in project management is growing significantly and an industry is evolving around project management training and education [61,87]. Professional associations

the world over are introducing ever more project management standards and certification processes. Trainers and consultants produce an endless stream of courses and assessment tools. Organizations invest in training, methodologies, etc. Yet the trend towards professionalism and the focus on standardization come into question as the behavioral and personal competencies of project managers outside of project management standards appear to be more relevant for their workplace performance [15] than the tools and techniques emphasized in the standards.

Furthermore, failures to plan accurately and control within “acceptable” limits are commonplace and projects fail at an astonishing rate in spite of the increasing interest in project management and project management

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^{*} Corresponding author. Tel.: +1 403 949 4965; fax: +1 403 949 4975.
E-mail address: janicet@athabascau.ca (J. Thomas).

implementation over the last decades [52,81,24]. In fact, there is little or no empirical evidence that trained and or certified project managers are any more successful than “accidental” project managers in today’s complex world [15].

At the same time, the role complexity, chaos, and uncertainty play within our projects and project environments is gaining recognition in both research and practice [2,80,38,40,78]. Hence, it is time to review our understanding of project management education and reflect about how we develop project managers. In particular, we need to discuss new perspectives and concepts (see for example [13]) for an advanced level of project management education that may help develop the abilities necessary to navigate with confidence within the dynamic organizational environments and complex projects facing project managers today.

In this paper, we first briefly comment on the evolution of project management and project manager development to provide background for the paper. We examine the current status of project management educational practices and compare them to the building blocks of advanced project management education that does prepare for complex environments. The large majority of providers and programs in North America seem to focus on the PMBOK[®] Guide (PMI, 2004) based transfer of “know what” and “know how” aimed at improving the problem-solving skills of junior level project management professionals. In Europe, the focus is training to the standards provided by professional associations such as the APM or on standards accepted by major project owners such as PRINCE2 in the UK Government. We contend (as others have recently [16]) that this level of education fails to prepare project management students to deal with the increasing complexity that they face in today’s working environment nor does it make full use of existing innovative learning environments and techniques [51].

Next we look at the impact of taking concepts of complexity and complexity theory seriously on project management and project management education. In particular, we demonstrate how highly adaptive and responsive systems with a large number of independent yet interacting agents call for new leadership approaches beyond the control-room metaphor of management [39] and for an education of the understanding and creative facilitation of change [83,84]. We also explore recent project management literature that discusses what skills and competencies project managers need to be successful in a world that takes complexity seriously.

In addition, we discuss the requirements for an advanced level of project management education that prepares project managers to deal with complexity. Based on a three dimensional model of project management knowledge [51], we suggest a more comprehensive approach towards the development of the “emotionally and spiritually intelligent” project leaders involved in highly complex and unique projects [45,38,88]. In particular, in discussing

how developing the master project manager may go beyond the current focus on the transfer of entry-level knowledge and on the training of basic problem-solving skills within traditional learning environments, we build on earlier suggestions for advanced project management education [87].

Finally, we explore opportunities for web-based education at the masters level by looking at how this particular learning environment is conducive to developing the specific skills required of senior project managers working in a complex environment.

2. The evolution of project management and project managers

Over the past 10 years, various standards have emerged and have helped to increase the degree of professionalism of project management. The International Project Management Association (IPMA) that represents members of various national organizations primarily in Europe, Asia, and Africa [37] “has developed its own standards and certification program which is comprised of a central framework and quality assurance process plus national programs developed by association members” [95, p. 241]. In 1996, the Australian Institute of Project Management (AIPM) published its National Competency Standard for Project Management [6], which “was adopted by the Australian Government as part of that country’s national qualification system” [17, p. 253]. The Association for Project Management in England also created “competency standards” around project control and project management. Other national project management organizations of significant size are actively involved in the development of the “profession” in South Africa, Japan, and China.

However, “aggressive global growth over the last decade has given the Project Management Professional (PMP) designation [of the Project Management Institute (PMI)] widespread recognition and many organizations are using it as an entrance requirement when hiring project managers. In this way, PMP certification is beginning to control entry into the practice of project management in many jurisdictions” [95, p. 242]. The fact that the PMBOK[®] Guide is accepted by the ANSI, IEEE, and Standards Australia contribute further to the notion that it has “become the de facto global standard for project management” [70, p. 1]. Based on this development and on the efforts of the various project management organizations to define a common ground for the standards to be applied in the field and for the framework of professional competencies, one can argue that PMI’s Project Management Body of Knowledge (PMBOK[®]) and its process of certification are moving towards becoming the quasi-standard of project management in many regions of the world. This is why we will focus on this particular standard in the following discussion.

Between 1996, when the first edition of PMI’s PMBOK[®] Guide was published by Project Management Institute

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