Chapter 6.13
Bridging the Industry–University Gap Through Action Research

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INTRODUCTION

Virtually every university in the US and overseas has seen a significant increase in demand for information technology (IT) courses and programs in the last 10 years (Greenspan, 1999; Monaghan, 1998; Ross, 1998). At the source of this demand is an ever-growing need for qualified IT professionals in most companies, whether the companies are in technology industries or not (Alexander, 1999; Andel, 1999; Trunk, 2000; Wilde, 1999).

Given the practical motivation above, one would expect university IT courses to be closely aligned with the industry's basic needs. Nevertheless, the gap between industry and academia in the field of IT (King, 1998; Kock et al., 2002; Richter, 1999) seems to be widening rather than contracting, which is evidenced by some symptoms: (a) students complaining about their lack of "real-world" IT experience when they graduate; (b) industry representatives pointing out that universities do not prepare students for the challenges and complexity of corporate IT management; and (c) faculty teaching topics that are related to their research yet far removed from the daily reality faced by IT professionals.

One way of addressing the problematic situation above is to establish industry-university partnerships. Such partnerships, particularly those involving research universities, have been commonplace for quite some time, and are arguably on the rise (Burnham, 1997; Wheaton, 1998). Irrespective of economic sector or industry, the vast majority of industry-university partnerships are of the *research partnership* type, which predominantly involves applied firm-specific research. In this type of partnership, funding from the industry partner is received in exchange for "intellectual horsepower" in the form of research services and technology transfer (Hollingsworth, 1998; Meyer-Krahmer, 1998).

A much less common type of industry-university partnership is what we refer here to as a *course partnership*, which gravitates around a regular university course (or set of courses) rather than a research project or program. In these types of partnerships, the industry partner agrees to sponsor one or more courses in which

the students are expected to apply concepts and theory learned in class to the solution of some of the industry partner's key problems. Students benefit from the direct contact with the industry they are likely to join after they graduate as well as professional relationships they are able to establish during the course.

This article discusses a *course partnership* involving a large engineering and professional services company, and a public university, both headquartered in Philadelphia. An action research study of the course partnership is used as a basis.

Like typical action research studies (Checkland, 1991; Lau, 1997; Peters & Robinson, 1984; Winter, 1989; Wood-Harper, 1985), ours aimed at providing a service to the research clients (Jonsonn, 1991; Rapoport, 1970; Sommer, 1994) while at the same time performing an exploratory investigation of the effect of Web-based collaboration technologies on course partnerships. The research clients in question were the students and the industry partner. Also, in line with a subclass of action research, namely participatory action research (Elden & Chisholm, 1993; Greenwood et al., 1993; McTaggart, 1991; Whyte, 1991), one of the research clients, the industry partner, participated actively in the compilation and analysis of the exploratory research data, as well as in the interpretation of the findings.

BACKGROUND

Our study was centered on a different and arguably promising approach to implementing course partnerships that was recently proposed to address the problems outlined previously (Kock et al., 2000, 2002, 2003). The approach involves conducting certain courses, particularly senior undergraduate and graduate courses, in close partnership with companies. Such courses are designed so that the concepts and theory discussed in class are applied in team course projects geared at solv-

ing immediate problems at the company partner. Other fundamental characteristics of these course partnerships are:

- **All team projects are conducted in one single organization:** Letting student teams identify organizations they would want to work with, based on criteria defined by the instructor, usually leads to different student teams conducting projects in different organizations, and thus to significant discrepancies in project complexity, project scope, and organizational support across different student teams. These problems can have a negative impact on learning, and are considerably reduced when all team projects are conducted in one single organization.
- **Potential projects are identified in advance:** The identification of a potential project by student teams can take up to 5 weeks of a 14-week course. One may argue that this is acceptable, as long as concepts and theory are covered in the classroom during those initial 5 weeks. However, in addition to identifying a project, a student team also needs to learn about the organizational culture, key people, and specific business processes they will be dealing with. This can easily take up another 5 weeks, leaving little time for other key project activities (e.g., business process redesign and IT implementation). The solution to this problem is to identify potential projects in advance, prior to the formal start of the course, and distribute them among student teams in the first week of the course.
- **Top management personally sponsors the course partnership:** Often, when students are asked to come up with their own company-sponsored course projects, the individuals who sponsor the projects are not senior managers. As a result, a project sponsor may be reluctant or lack the authority to approve organizational changes or purchases

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