



Chapter I

Belief, Inquiry, Argument and Reflection as Significant Issues in Learning about Information Systems Development Methodologies

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ABSTRACT

This chapter examines some of the issues that are driving the development of a master's course designated as "Information Systems Development Methodologies." The course takes a "reality as a social construct" view of the world, the purpose of the approach being to encourage students to challenge assumptions and enhance their abilities to research, reflect, critique, and develop strong arguments to support their understanding of the subject area. An interpretive approach such as this can challenge those students whose experiences of previous educational settings have been more strongly oriented toward rote or positivistic teaching and learning styles. The chapter outlines a number of approaches that have been adopted to help students deal with interpretive approaches to learning and to introduce them to issues of belief, inquiry, argument, and reflection.

INTRODUCTION

Information systems development can broadly be approached from a “hard,” or engineering, perspective or from a “soft,” human-activity-oriented position. The hard approaches tend to assume a belief that real-world problems can be “formulated as the making of a choice between alternative means of achieving a known end” (Checkland, 1981) and tend to lean toward project-management-based methods, techniques, and tools that have been successfully used to create artifacts such as bridges, computer technology, and spacecraft. These hard approaches have been developed over a number of years and are supported by considerable literature, a body of knowledge, and detailed methods to support practical project management. Although these approaches have proved to be largely successful in the production of a range of artifacts, they appear to have been less successful in the development of management information systems. Studies of the effectiveness of information systems development frequently indicate failure to deliver a viable object in line with time, cost, quality, or usability requirements.

Educators are thus faced with an interesting problem in considering how to teach students about the development of information systems. A hard stance has the potentially attractive feature in that it lends itself to “cookbook” approaches with clearly defined problem, rigid method, and limited range of possible outcomes and provides students with tangible skills. The weakness inherent in such an approach is that it does not take account of the real-world features of technological change accompanied by social, political, financial, legal, and ethical influences and pressures. It can also be argued that such “cookbook” approaches do not appear to work in practice. However, many students appear to be comfortable with the hard end of information systems, that is, with the traditional systems development life cycle (SDLC) or project-management-oriented approaches. In many ways this is to be expected when they have typically previously experienced educational programs that have strong leanings toward employable skills, or they work around cases that have single outcomes and are framed within a relatively static problem situation. Removing the complexities of unexpected change, organizational politics, shifting priorities, multiple worldviews, and so on, offers a simplified view of the world within which can be engineered artifacts that meet a given, and unchanging, specification. This allows the basics mechanics of systems development to be experienced, essentially from a “hard” perspective.

An alternative approach is to use a “soft” orientation to develop a teaching and learning environment that acknowledges and actively explores how the complicating factors that exist in human activity systems align more closely with the real world. The “softer” approaches more strongly take account of the complex and dynamic relationships between the systems, the designers, the users, and the organizational and broader environment. This view differentiates natural or designed systems from human activity systems, the latter being interpreted as the perceptions of human actors who are free to attribute meaning to their perceptions (Checkland, 1981). As the environment, availability of information, business paradigms, and so on, change, so may the interpretation of the system or system requirements by different actors. Not only do the actors need to be considered, but there is also a need to take an holistic view of the organization under consideration, examining perceived relationships and networks of social interaction rather than relying upon formal functions and structures (Espejo & Harnden, 1989). One of the problems with the softer approaches is that even after reading extensive and well-written work describing, for example, Beer’s Viable

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