Chapter X

Effectiveness of Systems Analysis and Design Education: An Exploratory Study

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ABSTRACT

This paper reports the results of an exploratory study of student perceptions of the education and experiences of the Systems Analysis and Design (SA&D) course taught in the IS programs at academic institutions. An ex-ante and post hoc empirical study of student perceptions in the SA&D courses was conducted. The results indicate that after taking the SA&D course and working with a real-life project, students’ perceptions improved for the applicability of structured methodologies across industries, the importance of computer programming in systems analysis and design process, and the role of advanced technologies in SA&D. Respondents also perceived that when working as groups, SA&D team members did not do their fair share of the work. However, the importance of user involvement was recognized.
INTRODUCTION

With frequent changes in existing information systems (IS) and the need to rapidly develop new systems, securing trained professionals in structured methodologies has become increasingly important. As computer technology evolves, the education of IS professionals will be expected to meet the skill set required by this changing business environment. To stay competitive, educational institutions have to be equipped to provide the necessary education and training to cater to business needs (Ahmadi & Brabson, 1998; Gill & Hu, 1999; Veneri, 1998).

The need for graduates trained in systems development methods was highlighted by managers in responses to a survey of topics for undergraduate Information Resource Management courses. The IS managers rated management of systems development as one of the most important topics (Doke, 1999). A joint academic-industry investigation of critical skills and knowledge requirements of information systems professionals found that, in the future, businesses will demand skills and knowledge in technology, management, business operations and interpersonal skills (Lee, Trauth, & Farwell, 1995). In addition to technical skills, businesses will also require skills to apply information technologies in solving business problems.

Practitioners have often expressed concerns that educational institutions do not adequately provide students with skills required to meet the changing needs of the business community. This is also evident from the results of the survey reported above in which the practitioners rated systems development as one of the most important topics. In another survey (Laribee, 1992), educators rated organizational issues as first and the management of systems development as the fourth most important topics. IS practitioners preferred graduates with relatively more technical skills than currently produced by academic institutions (Ahmadi & Brabson, 1998). This shows that educators share some responsibility for businesses’ lack of competitiveness due to poorly educated managers (Runkle, 1991).

Given the changes in the IS discipline and a significantly increased demand for systems analysts projected by the Bureau of Labor and Statistics (Bureau of Labor and Statistics, 2000), educational institutions should frequently update their curricula. A proposal for updating skills and abilities of IS graduates includes: the selection and utilization of methodologies of SA&D; using tools and techniques to analyze, design and construct information systems; and assessing the feasibility and risk associated with such project implementation as part of the IS curriculum (Couger et al., 1995).

Although educational institutions strive to emphasize skills in the curriculum that are necessary to place IS graduates into current and future jobs (Farwell, Kuramato, Lee, Trauth, & Winslow, 1992), there are other reasons to improve