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Lessons from a Preliminary Implementation of Curriculum '95 Course IS2: Personal Productivity with IS Technology

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Abstract

The Joint Curriculum Task Force of ACM/AIS/DPMA produced Curriculum '95 for undergraduate programs in Information Systems. One of the innovations in the curriculum was a second course: Personal Productivity with IS Technology. Although the curriculum describes the course, it is new and therefore is not well-defined in terms of instructional materials, assignments, etc. A workshop to discuss the new course is both timely and important to AIS members.

The recommended course focuses on improving productivity of individual knowledge workers by assisting them to achieve effective and efficient management of their individual information management systems. The relationship between individual systems and corporate systems is that of "systems in the small" versus "systems in the large." Therefore, the course provides information useful to non-majors in managing their systems and to majors in learning to support users. The course offers an insightful overview of the entire system development process.

The course is designed to achieve a balance between concepts and application of the concepts in practice. Technology concepts and characteristics are in order to focus students on long-term knowledge rather than transitory features.

In this workshop we describe our implementation and experience with a similar course at the University of Minnesota. The course has now been presented to over 100 first-year MBA students. It is currently included in the MBA curriculum as an elective course for all MBA students and as a requirement for Management Information Systems majors. These experiences can be translated into pedagogy appropriate at the undergraduate level.

Outline

We expect the workshop to be open to discussion, and will be prepared to respond to the questions of workshop participants. Depending upon the time available and the interests of those participating, we will be prepared to discuss the following topics:

I. Curriculum: the rationale for this course and its fit with and effects on other parts of the curriculum.

    A. Prerequisite knowledge and skills

B. Interaction and overlap with the "first course"

C. Interaction and overlap with the subsequent "systems analysis and design course"

II. Content: the material covered and the depth of coverage
      A. Reading and lecture topics and contents

      B. Assignments

III. Support Requirements: instructor capabilities and technology support needs
      A. Topic areas instructor should be familiar with

      B. Technology support needs

IV. Experiences: feedback from our classes and students

Background

The need for a new second course in the information systems curriculum is based on the need for a meaningful, worthwhile course for non-majors who would like to know more and the need for a better progression of instruction for information system majors. The difficulty is that traditional MIS or information system courses tend to assume that courses after the required introductory course(s) are only for majors. There is an emphasis on concepts and methods for large, organizational applications. There is an assumption that technology infrastructures and applications will be developed and managed by specialists. Topics are often packaged across a sequence of courses, leading to an "all-or-nothing" situation.

An organization has a system for information management. Why should an individual have a system? Doesn't the organization system provide all necessary resources and management? The answer is that the organization system provides some information management resources for knowledge workers, but individual knowledge workers are expected to manage much of the information technology they use and to build and operate much of their own information management system. In other words, organizations have formal organization systems for information management, and individual knowledge workers have their own information management systems. The systems have strong interactions, but they are different.

What is needed is a course for individuals who will be expected to develop and manage a large part of their information resources and information processing. Such individuals are described as knowledge workers because their work depends on knowledge they bring to the task, their ability to obtain information from a variety of sources, and their ability to design and carry out analytical and information processing activities. Examples are analysts, managers, accountants, designers, programmers, and so forth.

The course meets an important need by dealing with a discontinuity in the sequence of courses for specialists. It provides an orderly transition between the survey introductory course and the specialized traditional courses. One way to think about the relationship is that individual systems are designed and built with processes for "development in the small" and organization systems are built with processes for "development in the large." Although development in the small has many similarities to development in the large, many activities are eliminated or done much more simply.

The primary objective of the new second course is to instruct students how to be more productive in their use of information technology. The course can be described in terms of three major areas of instruction.

- Analyzing individual requirements and designing and building a personal information infrastructure.
- Analyzing requirements for information support for individual knowledge work tasks and developing solutions.
- Managing and maintaining the individual infrastructure and applications.

The course provides knowledge workers with the concepts and methods to search for opportunities to achieve greater productivity with packages and to tailor existing solutions. The course also has a programming component. This component has two objectives: the first is to provide introductory skill in disciplined programming of an individual solution; the second is to provide an understanding of programming sufficient to allow a knowledge worker to interact with specialists. The interaction may be with a specialist doing a program for him or her or with specialists as part of a project team for a large application.

In some schools, there has been a course for "end users" or end user computing. While this material is important to knowledge workers, it is much narrower in scope than the proposed second course. The second course encompasses the entire individual system including its infrastructure and management. Application development is positioned within a system plan. Applications may use a variety of methods with emphasis on finding and tailoring package solutions. In contrast, the end use computing course has tended to emphasize end-user development tools and tools for accessing and analyzing data from corporate databases.