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Teaching & Learning Strategies for Introductory Information Management:

Lessons from Group-based Classroom Experiences

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Introduction

This paper reports the author's observations from teaching an introductory Information Management (IM) course and builds on past research to explain the findings in student learning issues, achievement motivation, and small-group effectiveness in the classroom. The approach used to teach the course was not the "traditional" one adopted in similar introductory courses in management of information systems (i.e., usually involving instructor-directed learning and mostly lecture-based) but rather one based on small group interactions (i.e., using in-class experiential exercises) and involving more self-directed learning. In summary, the paper has three purposes: (a) to describe the development of a new course dealing with the integration of managerial organizational behavior (OB) and IM knowledge; (b) to demonstrate the role and usefulness of groupwork in undergraduate teaching and its implications on motivation and learning; and (c) to discuss four stages of student motivation and intellectual development observed during the course.

What's the *problem* with teaching introductory level IM courses?

Teaching introductory IS management to undergraduate and graduate students is one of the most challenging tasks for academics. Such courses usually cover a broad spectrum of IS topics ranging from very "hard" and technical ones (e.g., hardware specifications and "bits & bytes" coverage, description of memory devices, etc.) to very "soft" and managerial ones (e.g., what IS managers do, planning for IT, user involvement, strategic use of IT, etc.). Overall, students with more experience appreciate the introductory IM course much more than those with limited or no experience. In particular such students, even when the course is taught in the traditional "mostly lecture-based and note-taking" approach, find the case studies and journal articles very useful and thought provoking.

However, undergraduates tend to have very limited working experience and often find such courses of limited interest and not very useful in equipping them with enough specific skills to help them get a job in the IS field. Case studies seem very dry and of little meaning since they refer to real-life situations, thus foreign to most undergraduates, and journal articles seem "too abstract" to make it to the students' top-ten list of preferred readings for their semester classes. They usually rely on their more advanced or motivated classmates to disseminate their meaning during class discussion.

Previous research has distinguished between undergraduate and graduate education as similar to the distinction between the Greek words *pedagogy* (child education) and *andragogy* (adult education). In brief, pedagogy refers to instructor-directed methods of education where the student is in passive mode of note-taking and extrinsically motivated, while andragogy refers to self-directed learning where the student is intrinsically motivated and thus in active mode of involvement and capable of defining their own learning goals beyond the instructor's objectives. Furthermore, other researchers have elaborated on the advantages of team-based or groupwork environments and how such environments contribute to (i) self-managed learning, and (ii) higher attainment and overall performance.

The Setting & Initial Conditions

The observations reported here involve the teaching of two large sections (between 60-70 students per section) of a course which is part of the core curriculum in the *Information Management & Technology* B.Sc. degree of Syracuse University's School of Information Studies. Most of the students were third-year (juniors) full-time undergraduates with little or no experience and the class met twice a week for 1.30-hour meetings over a 15-week semester.

The course was designed to cover principles from both the managerial perspective (mostly OB basics) and the IT management perspective (mostly the impact of IT on organizational structure, change and development, and the role of IT in the Networked organization). During the course I carefully observed and took notes on class behavior based on the various topics and teaching techniques I was using. In effect, I was trying to understand the differences between certain teaching techniques and "what really motivates undergraduates about information management (IM) learning?" and "How can students learn best & Why?"

The course started by emphasizing the values of observation, reasoning, perception, and prediction by allowing students to work in small groups and analyze each other's strengths and weaknesses and general behavior. In addition, students were given "warnings" during the first class that the course will involve a lot of reading, many activities in and out of the class, and a great deal of unstructuredness and anxiety during their assignments and experiential exercises. Groups were formed by the students under the instructor's guidance and "rule of maximum heterogeneity" (i.e., groups had to include students from diverse races, ages, work experience, gender and ethnicity and cultures). The explanation of that rule to students was that they can learn more from people that are different from them.

After the first two weeks the level of involvement increased dramatically along with the number of questions regarding "Do IS managers really do this?" and the frequency of calls, e-mail and visits to the instructor's office regarding group assignments and observation of real-world situations in organizations. In addition, group leaders (or spokespersons as they liked calling them) assumed much more responsibility in coordinating their groups and getting advice from one of the teaching assistants assigned to the course (these were highly regarded juniors and seniors that had taken the course the previous semester and were selected to help groups outside of the classroom).

In terms of topics covered in the course, there were three major areas: (i) *organizations as systems* and aspects of *functional & group coordination*, (ii) *behavioral aspects* of organizations (i.e., group, individual and intergroup activities), and (iii) *Information Management & IT-based competitiveness* issues (i.e., the networked firm, restructuring business, organizational change & development; what makes some organizations more successful than others and how IS/IM can affect and sustain firm competitiveness).

Each group was also responsible to put together a "contract with the instructor" where they would describe an empirical research they had decided for the class project (usually an interview with both an IS manager and an IS user), the organization involved in the project, and the learning goals of their research project.

The Findings: Most Effective Teaching Strategies & Experiential Exercises

Short Case Studies: Analysis of cases took place in class or as take-home assignments. Students read material individually and met with group to agree on problem identification and propose alternative solutions and reasoning for them.

In-class Analysis of an IBO: Students were given a real scenario/organization and were then asked to define the IBO's structural characteristics, its IT needs, its approach to IM, and IT's impact on the structure and behavior of the IBO (e.g., students were asked to analyze the University's registration system and processes and propose ways to reengineer it).

Debates between Groups: Class was split in two or four groups with polarized views (given by the instructor) and team leaders facilitated the discussion and argued for each group (e.g., good items for

debates are computer ethics & piracy, centralized vs. decentralized IS management, and make vs. buy decisions for IT, IT Vendor evaluation process).

Designing IBOs: Groups were asked to brainstorm and identify an information-based organization (IBO), as well as assign roles to the group members, discuss and identify revenue sources, mission & goals of the IBO, reward system, long-term vision in regards to IM and change, etc. Good examples are the design of a newspaper or a news TV-program.

Observed Stages of Student Involvement, Motivation, and Intellectual Development

Small-group culture forced students to assume greater responsibility and "not let down" the rest of the group. In-class activities and comparison to other "competing" groups also created an atmosphere of constant attainment and persistence to complete more difficult tasks. Criticisms and open evaluations of group work by the rest of the class also contributed to high levels of attainment and consequently high self-concept of ability among group members. Past research confirms these findings and has shown strong causality between future self-confidence and success of students and adults with high attainment at earlier years of their education. This also means that positive experiences during undergraduate work will positively affect the students' future levels of professional attainment and success.

In summary, during the IBO course the various experiential exercises and group interaction aided in forming four distinct stages of student intellectual development. These stages are described below and are consistent with past research on the subject of intellectual development and teaching effectiveness:

STAGE I. Establishment of importance of subject and institution of trust between instructor and students: students learn about the role of information in reducing uncertainty; the role of OB in better understanding and more accurately predicting managerial behavior; the definition of IBOS; the evolution of an information-based economy, and the role of information management; definitions and fundamentals about OB and IM.

STAGE II. Establishment of group interaction, increased responsibility & cohesiveness: groups act as organizations; groups are systems with common goals; member interaction increases responsibility; it also enhances realization that members have unique characteristics (i.e., diversity issues), strengths and weaknesses which will help them carry out complex tasks together by assigning appropriate responsibilities to the right members and collaborating in problem-solving situations.

STAGE III. Establishment of task motivation via "applicability" and experiential realism of IT management and OB: involvement in experiential exercises; realization that theory taught by the instructor is applicable in real-life situations (e.g., conflict management, negotiations, power and leadership attributes); generation of self-confidence within the group and in class in general.

STAGE IV. Self-directed learning & motivation: students are starting to act on their own, finding interesting subjects related to IM and OB and contacting interviews of managers and employees of local companies, observe managerial behavior and report results or dysfunctional organizations and in general, are willing to do extra research to learn about issues beyond the ones specified by the instructor, generate questions about managerial behavior and IS management issues, associate theory with practice, and discover their own creative abilities to solve complex problems and management crises

Discussion & Implications

Teaching introductory information systems or information management courses can be very challenging for the instructor and might result in students remaining uninterested in the subject area, a limited intellectual development, and in many occasions in poor evaluations of the instructor's teaching ability. However, the adoption of certain group-based and self-directed learning techniques seems to be more appropriate for

teaching IM and it can enhance the students' motivation, creativity and innovation, their information management skills and their level of attainment and overall performance.

Students also became more confident in themselves, presented material and cases in a very professional way, and in general argued convincingly about their opinion on IM issues. They felt proud about their ability to interview and converse meaningfully with IT experts and IS managers, as well as their ability to anticipate successful or problematic environments in the organizations they visited.

Furthermore, students learnt how to systematically observe, reason and predict, as well as to appreciate diversity within groups and accept differences in race, ethnicity, gender, age, culture, and work experience that might otherwise have hindered their judgment on managerial or technical situations.

Overall, groupwork and role taking can both increase motivation and improve learning, enhance the intellectual development and the confidence of the involved students, as well as increase the excitement and rejuvenation of the instructor!

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