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## **PREPARING INDUSTRY-READY ANALYSTS IN CLASSROOMS: A MODULE-INJECTION BASED APPROACH**

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### **EXTENDED ABSTRACT**

#### **I. INTRODUCTION**

An important objective of information systems (IS) curriculum and pedagogy is to prepare students for a career in IS. The burgeoning demand for IT in business has expanded and diversified the traditional roles of IS professionals, yielding both challenges and opportunities for IS students. In particular, the role of the analyst has increased in criticality [Coughlan et al., 2003] and demand [Chao and Shih, 2005]. Given the importance of this role, we feel that a substantial focus of IS education should be aimed at providing students with means to hone their skills as future analysts.

Previous research indicates that the skill requirements of an analyst are both behavioral and knowledge based and include business knowledge, technical knowledge, analytic skills and interpersonal skills [Green, 1989]. While recent IS curriculum initiatives [Gorgone et al., 2003] have made substantial progress in providing the requisite knowledge background, we feel that there is a paucity in systematic procedures that provide the students with behavioral skills. IS academics need to design pedagogical components that a) impart experiential learning experience [Heim et al., 2005] and b) focus on simulating specific activities (such as requirements gathering) that are central to an analyst's tasks. Current experiential learning components are typically limited to semester-long group-based projects in various forms (e.g., prepared case studies [Tan and Phillips, 2005], projects with real clients [Frandsen and Rhodes, 2002, Scott, 2004] and role-play simulation based projects [Avison et al., 2006, Chakraborty and Sarker, 2007, Sarker and Sahay, 2004]). While these projects are useful pedagogical tools, there are certain drawbacks:

- The projects are difficult to implement [Fox, 2002, Jensen and Wee, 2000, Tan and Phillips, 2005] and require substantial effort, involvement, and preparation on the part of the instructor.
- They are typically associated with capstone courses and consequently, students are exposed to very few of such endeavors.

We feel that such long-term projects need to be complemented with more directed, short-term initiatives that would acquaint students with the dialogue intensive and unstructured nature of a typical analysts' task. The success of such experiential learning modules is contingent on them a)

being applicable to a broad spectrum of IS courses and b) requiring minimal effort in terms of their implementation.

An IS curriculum that combines short-term group-based activities with the existing semester-long projects would be more effective in preparing competent IS professionals. Consequently, we propose an approach that entails the design and development of module injections, an approach that has been successfully applied in other computing curriculum initiatives [Taylor and Azadegan, 2008]. The details of our approach are discussed in the following section.

## II. THE INJECTION BASED APPROACH

Our proposal is to inject self-contained exercise modules that simulate the requirements gathering activity. While this model is research in progress and the injection modules are still under construction, we would like to provide some insight into the design of the module injections.

*Modules:* Each module will be self-contained, requiring minimal instructor supervision, and will consist of the following components:

1. A real-world information systems development / management problem description
2. A specification report template in the form of a questionnaire
3. One or more checklists listing good practices related to requirements gathering
4. Discussion or introspection questions
5. External reading resources

*Procedure:*

1. Each module will contain instructions to divide the class into groups consisting of 4-5 students with different roles (users and analysts).
2. Users will be provided with a brief proposal for an information system.
3. The analysts and users will then participate in a discussion (extending for about twenty minutes) similar to real-world requirements gathering meetings.
4. Subsequent to the discussion, the analysts will complete the specification report.
5. The users and analysts will also complete the checklist document(s). The checklist(s) will serve both as a discussion topic and allow the students to engage in introspection.

This process should take about 30-35 minutes of class time and can lead to more discussion on the topic of the module if the instructor so wishes. The entire exercise can also be repeated later in the semester with the same students with switched roles and different groups. This will enable them to learn from their previous experience and implement the knowledge gained from checklists and readings.

We believe that such module development can be easily extended to other IS topics such as database design, systems design, process re-engineering etc. We also contend that the ease of injection of the pre-prepared modules will aid instructors in introducing these topics in detail and allow the students to learn-by-experience the skills and best practices needed to be successful analysts.

**Keywords:** Analyst, IS Teaching, Requirements gathering, Module injections, Experiential Learning

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