

# IT And Project Management: The New IS Literacy

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## Abstract

*Many courses are still delivered by primarily a lecture format. However, many faculty are now realizing that students may gain more by active learning exercises. Upon graduation these students will work on many projects and work as team members. This paper present a new IS literacy course which is heavily reliant on project management techniques, teamwork, and active learning, while incorporating fundamental IT concepts. This course is "The New IS Literacy" course.*

KEYWORDS: Project Management, IS Literacy, IT, teamwork, active learning

## Introduction

In this paper we look at a new direction for course delivery of the Introduction to Information Literacy course. This author has delivered an introduction to Information Literacy course for more than 20 years at various institutions. Although texts incorporate trends in hardware and software development and now incorporate relevant internet related material as well as material on data communications, some still fall short in satisfying the information needs of the clientele.

The course taught at our university is a general education course structured to meet the needs of several majors. These majors are very diverse in nature coming from a school of technology, school of education, school of arts & sciences, school of business, etcetera. What is the best educational experience we can provide them with to not only gain current information technology literacy but to enable them to become equipped to be a life long learner able to gain IT knowledge as they continue with their careers.

This author has had the benefit of structuring a corporate

advisory board consisting of managers from companies such as State Farm Insurance, EDS, IBM, Andersen Consulting, Eli Lilly, to name just a few representatives. It has become quite apparent that project management is also an area that students need to have sufficient experience with. It has also become apparent that teamwork exposure is as critical as ever for our students. Thus, we redesigned our Introduction to Information Technology course to include material on project management and team building. I will provide a singular example of how it is offered but many variations of this delivery are possible.

## An Example Of Course Content And Delivery

Students are placed on six different teams during the course of the semester. An initial project deals with literacy regarding search engines. At this time all students have had some basic exposure to the Internet and have used a search engine. The stress of this initial project is to give them material and guidelines with which to compare search engines. They utilize basic word processing skills and spread sheet skills as they write a joint paper (typically with 3 member teams). They do a study on a topic given by the instructor but are also to look at commonality of sources found by presenting a spreadsheet comparing "hits" and search engines. Teams select their own facilitator and must also present times the completed paper was proofread by the various team members. This project gives them an exposure to multiple search engines and searching techniques. Material on team building is presented in class.

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## IT and Project Management

Material such as that found in “Requirements Analysis: Quality Before Design” is provided.

Initial teams are structured to be quite diverse, mixing those of strong and weak backgrounds, mixing sexes, mixing nationalities, etcetera. While the first project is in progress, students are placed on a second team where they will compare Internet Providers. Material on delivery such as ISDN, DSL, wireless, etcetera is discussed in class and students again are placed in teams to research and compare ISPs with regard to costs and benefits.

The traditional concepts for information such as accurate, relevant, and timely are discussed but the concept of quality in the IS area is also stressed. Students are given material on quality and in particular Deming’s 14 points are discussed with examples in the IT area. Students are then placed on their third different team and are asked to go out into the community to discuss these points of quality with some who work in the IS area. We allow for a very broad definition of someone who works in the IS area. This exercise also lends itself well to a class discussion of the various types of employment that is possible in the IS/IT area.

Material on Home Page construction is also presented in this course. The stress is not on the technology but on presenting accurate, timely, and relevant information and to understand a value added approach. Students are to construct or modify a home page for a local nonprofit organization. Local is defined as either the locality where the university is located, the locality in which they live, or even a locality they once lived in. These pages are placed on a LINUX server. In this class students are introduced to multiple operating systems. They may create simple HTML text using WORD and then use FTP to send these files to their allotted “Web Area.” After experiencing working with multiple team members, students select their own team members for this project. Teams make an oral presentation of their completed work at the end of the semester.

Since many teams that exist in today’s world are virtual teams, we also provide this experience for our students. This exercise does take a great deal of planning to be successful. Typically the students are placed in teams with a portion of their team being physically present in their classroom, while the other portion is located at another university either in or out of the United States. Teams select from a list of IT related companies and must present one final paper discussing location, products, employment, and some financial data. Their teammates typically have not been other IT/IS students but students in another course so as to again maximize diversity while giving them a real world

issue to study. Because of the logistics involved, teams are structured by the instructor.

As I have stated, much planning is needed. For example, students at Indiana State University worked with students in Pretoria University, South Africa. The schools were on very different schedules with very different holidays. The lab environment was different and whereas the Indiana State classes had about 40 students and always met in a lab environment, the Pretoria class was much larger and met for lecture and also in much smaller groups in labs.

A traditional component of the course is the discussion of hardware and software. This is no less important in this new literacy course. As the course progresses many of the developments in hardware and software are discussed and a final project is given to the students. They again select their own team members and are given an assumed dollar budget for a twelve month period and are to assume they initially have no hardware, software, internet provider, etc. They must discuss how they would spend their budget including appropriate justification. They have also been able to learn and add new material to use in project completion as they must also keep a weekly log of articles that appear in sources such as Cnet.com. Typically this log of articles is valued at 10% of the course grade. Quizzes are typically only valued at 15% of the course grade. Students learn that in the IS area they have many sources to rely on but that there are many projects to complete. Time management becomes essential as students are often working on 3 distinctly different projects simultaneously with 3 different sets of team members. Project management principles are discussed. Students also learn they cannot afford to carry others who are not capable of really being a team member. They are given a set of guidelines for firing team members, including setting deadlines, proper warnings, team agreement, and appropriate documentation.

## Success With Redesign

One may wonder if this delivery is just another delivery method but not necessarily more successful than the traditional lecture method. There are many gains by offering this new IS literacy. Students are taught to plan, as they must complete several projects while working on more than one project simultaneously. Students who tended to procrastinate are no longer able to as they are working with others from around the globe who may have a very different time line and a different set of responsibilities. They learn that they must schedule in order to accomplish tasks. They learn that it is best if a successful leader emerges and that many have the ability to lead, as members of some

projects become facilitators of other projects. Responsibilities are allocated by talents and the students learn from each other.

Projects such as the Home Page design with nonprofit organizations bring up an awareness of the community via an active service learning exercise. They learn about the relationship between community and education. By requiring a log to be kept of current IS developments they not only keep current but are allowed some flexibility in their choice of readings and thus are more prone to read with enthusiasm as they are learning about areas they are most interested in. By working on a virtual team with members from other disciplines at other universities they learn the importance of IS as it related to other areas. They also learn the importance of collaboration. Some even learn that although most people will make great team members not all make great team members. Even those who have slacked off learn that perhaps they need to contribute more as students select their own teams for the last project and those who really did not contribute find that they are not in demand by others. Actually, a system is in place in this class for firing a team member. Warnings must be given and documentation must be kept. But students learn it is best to not accept shoddy work by others or just carry others along. If a member is released from a team I do not penalize the others on the team by extra work but I cut down on what I would expect from that particular team. On a very positive note students also learn that everyone has something to contribute and by sharing a workload and communicating they are able to produce a much better product as a team than as individuals.

By including an assignment relating quality of IS one fortifies the notion of the importance of quality in today's world. By students communicating about this with those who have been in the workforce they are more attuned to the importance of quality as they proceed with other class projects. By utilizing teams and active learning techniques there is no sacrifice by omitting important fundamental literacy material. It is just the opposite. More material can be covered and covered in a more relevant way.

## Conclusion

I would strongly encourage all to consider offering the new IS literacy course. If you are not an IS faculty member I would encourage you to share your thoughts with IS faculty members as they may be unaware that some have drastically changed how the introductory course is offered. There would be a time investment for the faculty member to become adept with this new methodology but the quality of education would outweigh the time costs. Perhaps rea-

sonable administrators might even be convinced to give faculty a course reduction as they devote time gathering resources and honing skills in order to offer "The New IS Literacy" course. Lastly, as this course relies on active learning techniques rather than lecture based techniques and also relies on virtual teams it could easily be offered as a course offered over the web. In that manner of delivery Information Technology components would truly be learned in an active fashion. At this time some are only using IT to automate their existing delivery techniques rather than using technology to develop new and better educational methodologies. Incorporating active learning, project management, and teams would allow us to glean more benefit from the information technology we have available.

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## **IT and Project Management**

### **Biography**

Dennis Bialaszewski has taught an Introduction To Information Systems Course for more than 20 years. He is a past recipient of the New York State Chancellors Award

for Excellence in Teaching, a past Editor of the Journal of Education for MIS, and a past President of the International Academy for Information Management. He has more than 50 publications and has utilized projects and virtual teams in his courses for several years.