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InfoIQ: A service offering of UCLA Anderson Computing and Information Services

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Abstract

The rapid proliferation of communication and information technology coupled with an exponential increase in information has created an “access paradox,” whereby information is readily available, but individual skills for effectively utilizing the environment are not keeping pace. In response to the access paradox, the UCLA Anderson School’s Computing and Information Services (ACIS) has launched InfoIQ, a pilot program that seeks to develop a formal framework of technology and information education for MBA students that can be applied both during their academic careers and as business professionals.

InfoIQ: A Service Offering of Anderson Computing and Information Services

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Summary

The MBA curriculum formally imparts knowledge to effectively manage information and technology at an organizational level, while developing a personal mastery of information and technology use is largely ignored. This can create a critical gap in one's abilities to effectively use information and technology in furtherance of professional and business goals. The ever-changing and growing information, communication and technology landscape exacerbates the effects of what we term the "access paradox" - whereby information is readily available, but individual skills for effective utilization are not keeping pace.

ACIS must increasingly align our work closely with the educational mission of the school to meet the increasing demands facing our students such as the access paradox. This can be facilitated by:

- Taking an increased instructional approach in our services and by developing closer ties to the educational lifecycle of students.
- Developing and expanding our current instructional and information services to better impart conceptual knowledge
- Restructuring our current support layer of services to provide real world practice and learning opportunities.

Adopting InfoIQ will actively create and promote ACIS' services to fit this new model of service.

The Access Paradox

The rapid proliferation of communication and information technology coupled with an exponential increase in information has created an "access paradox," whereby information is readily available, but individual skills for effectively utilizing the environment are not keeping pace. We are not the first to perceive this phenomenon: a 2001 IDC survey conducted of knowledge workers information searching behaviors found that only 21 % of respondents stated they were able to find the information they needed 85 – 100 % of the time (2001 'Quantifying Enterprise Search'). Another IDC study in 2004 estimated substandard performance from not finding information could cost a U.S. organization of 1000 employees up to 18 million dollars a year (Feldman 2004). While the rich 21st century information and technology environment offers tremendous opportunities, the lack of information and technology skills coupled with information overload threatens this potential. Like other complex information rich environments, mastery requires conceptual knowledge, training, and practice. While our

students undertake a rigorous management curriculum that follows this pattern, information proficiency and technology skills do not receive the same attention.

Information Literacy: Responding to the Access Paradox

In response to the access paradox, academic libraries have embraced the concept of information literacy (IL). Information literacy is defined by the Association of College and Research Libraries (ACRL) as the following:

“... a set of abilities requiring individuals to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.”

From ACRL Information Literacy Competency Standards for Higher Education
<<http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm#ildef>>

Colleges and universities worldwide have formed information literacy programs to deliver instruction to undergraduates in such topics as plagiarism and effective use of print and online information sources (McGill and Davis, 2004; Mizrachi, 2004; Rockman 2003). IL has also been identified as a critical component in learning at various other levels of education (Candy, Crebert & O'Leary, 1996), (Bruce 1995) as well as in particular disciplines such as engineering (Napp 2004) and in professions such as nursing (Jacob, Rosenfeld & Haber 2003) and occupational therapy (Powell and Case-Smith, 2003). Although these programs are mostly under the purview of the library, it is widely held that the success of IL requires faculty support and curricular integration.

The apparent need for responsible and effective use of information has also prompted accreditation boards such as the Western Association of Schools and Colleges to explicitly define and acknowledge the need for to integrate information literacy into higher education. Business education has yet to follow suit, as there is no explicit AACSB standard requiring outcomes specifying information literacy skills. But, given the specificity of business education and its goals, information literacy as defined by ACRL may not be appropriate. But, we cannot assume that the goals of information literacy are not applicable to the business world and to business education, nor can we assume that information literacy instruction is not needed.

In graduate level business education, a growing number of libraries are offering information literacy instruction in some form. Early examples of collaboration in IL instruction include a project to teach MBA students on-line (DIALOG) and off-line (CD-ROM) database searching strategies at IN-SEAD (France) (Dunnig 1989). More recently, California State University campuses are focusing efforts on competency-based information literacy instruction for MBA students (Gilinsky 2004). Personal Knowledge Management, developed at the Anderson School (Frاند and Lippincott, 2002) and closely related to information literacy, has been taught at UCLA Anderson and as a part of the Aarhus School of Business' "IT, language, and learning" course (Schrieber and Harbo, 2004). None of these efforts, however, have reached the level of integration necessary to fully address the access paradox.

ACIS and the UCLA Anderson School of Management can take a leading role in management education by developing a unique information literacy program specifically for business education which meets the unique needs of our environment. Such a project would align with AACSB standards that indicate MBA education as affording graduates the "capacity to adapt and innovate, to solve problems, to cope with unforeseen events, and to manage in unpredictable environments." Information literacy competency according to the ACRL "extends learning beyond formal classroom settings and provides practice with self-directed investigations." These goal statements are complementary, and are indicative of the strong relationship that information literacy and business education share. AACSB standards also address innovative thinking through innovative teaching environments. Information literacy instruction offers an innovative approach that promotes transferable and usable "real world" information, technology, and communication skills that complement and extend the theoretical core of the business curriculum. Furthermore, the necessity of faculty, IT, and library staff collaboration for successful information literacy instruction presents significant opportunities for innovation and stakeholder relationship building.

The ACIS approach: InfoIQ

In 2004, ACIS commissioned the establishment of an internal taskforce charged to: 1) conduct a needs assessment of student skills; and 2) define information literacy for the MBA student. As a means to assessing student skills, the taskforce conducted focus groups with recent MBA graduates from the three MBA programs. Data from the focus group discussions corroborated anecdotal evidence of the existence of an "access paradox." Of concern was the lack of differentiation between information skills and technological abilities and the lack of understanding of the complex nature of information used to make important business decisions. For example, we observed that former MBA students equated facility with Web search tools, such as Google with ability to get needed information. In terms of technology, many had a high level of confidence in their own skills and abilities, yet did not have much confidence in the abilities of the people around them. Focus group members did not have a method to evaluate and examine emerging technologies. This evidence complemented our informal observations of a need for increased information literacy instruction.

With the second charge, the taskforce concluded that information literacy as defined by ACRL and current information literacy instruction practices were too tightly bound with undergraduate education and not completely appropriate for our graduate business environment. So merging our emphasis on professional skills with information literacy instruction and theory currently popular in different educational spheres we developed a unique notion of information literacy which we are calling **InfoIQ**. It is defined as:

Conceptual, practical and technological abilities to identify, retrieve, evaluate, utilize and create business information for effective, efficient decision-making and problem solving in furtherance of professional or organizational goals.

InfoIQ emphasizes several goals; MBA employability, competitiveness, creativity and innovation in parallel with the values of the UCLA Anderson School. In addition we focused on developing higher order skills (critical thinking, creativity) and lifelong learning (transferable academic and professional skills) though an increased awareness and understanding the technological and information environment. InfoIQ notably conforms to the changing demands of business education as well.

As business education is seemingly at odds with critics and a constantly changing business environment (Bennis and O'Toole 2005; Pfeffer, and Fong, 2004; Mintzberg 2004), there is a persistent need to provide proof of real world applicability and value of an MBA education. Experiential learning projects, such as field studies and the like, help in applying classroom instruction and theory, to the real world in order to develop professional skills. ACIS seeks to develop a similar approach with integrating the notion of InfoIQ, contributing to the further development of critical thinking and analytic abilities of students, which Pfeffer and Fong stress as an important role of business education (2004). This can be accomplished by providing new information services as well as continuing and extending current instruction that complements classroom education and provides information and technology self-sufficiency. It is tempting to suggest that closing the gap simply requires hands-on instruction in the use of particular databases. Although this is clearly beneficial, it is not likely to solve the problem as there are needs that go beyond simply acquiring hands on skills which is often the typical level of response of higher education (Mutch, 1996, p.455).

The access paradox is the result of a larger and more difficult problem of ever increasing complexity of options. The breadth of resources available and the constantly evolving business environment requires a higher level of critical thinking skills about the information and technology used in making decisions in organizations. Not only must our students graduate with an awareness of the wide array of information and technology tools at their disposal, but with a meta-conceptual understanding of information; in other words an understanding of information outside of subject knowledge and quantitative reasoning skills taught in the MBA curriculum.

ACIS has already made changes to infuse the concept of InfoIQ and IL with the development of new services and tools. One example is eLibrarian, an online tool developed by ACIS that provides students the ability to seek guidance from librarians via the web. Students can submit questions regarding an information need, whether it is for a course or project at anytime. What makes this tool different from virtual reference is not the technology, but the motivation driving the system. Librarians do not provide answers to questions but rather strategies to find information using available tools as examples. The increasing popularity of the tool indicates that students are increasingly overwhelmed by the breadth and depth of options. It may also indicate an understanding amongst student of the value of participating in the searching process in order to make effective business decision quickly and accurately. Another example is Personal Knowledge Management (PKM), which teaches individuals how to effectively organize and manage their information to enhance knowledge acquisition, problem solving and decision making. PKM focuses on shaping student thinking and behavior to best use

technology tools. Other ACIS instructional activities, including in-person orientation workshops, course project strategies, MBA team consultations, and online workshops in business information topics all focus on teaching conceptual, transferable skills.

UCLA Anderson InfoIQ program

The InfoIQ program seeks to achieve the tighter integration of our instructional efforts necessary to address the access paradox. ACIS will build upon and expand current ACIS instructional activities continuing to emphasize the development and use of conceptual knowledge about information, communication and technology in practical and concrete ways.

A key recommendation of the ACIS information literacy taskforce was to pilot InfoIQ instruction, resources and services with a capstone project for one of the full-time MBA program. The taskforce selected the Applied Management Research (AMR) course as an appropriate pilot for integrating InfoIQ instruction into the Anderson curriculum. The AMR course is a two-quarter master's thesis project that employs experiential learning whereby teams partner with a company to work on a business objective identified by that company. Overseen by a faculty advisor, teams identify and analyze the business problem, conduct primary and secondary research, and present a strategy or solution to the company. Companies pay a fee to participate in this project. The overall aim of the project is to integrate student learning in the core academic areas through active application. In addition, students gain project management, client management, team building, and communication skills.

The taskforce recommended the AMR program for these reasons:

- Unlike case and lecture based curriculum, where the instructional objectives are contained in prepackaged content, the AMR/IFS programs are build upon real world situations where students are required to gather and analyze complex information. Students are often required to do substantial research that requires the use of library and Web information resources.
- Student motivation is high because the project has real objectives and outcomes – it is not an academic exercise;
- Stakeholder expectations mean that the pressure to perform and the consequences of failure are real to the student and the company;
- The AMR is two quarters (22 weeks) and offers several opportunities for ACIS to contribute.

AMR InfoIQ pilot program may include:

- Integrating with the AMR curriculum through adding InfoIQ learning outcomes;
- Developing integrated InfoIQ instructional modules (see “planned instructional modules” below) for delivery online and/or in person
- Revising consultation service so that is it mandatory; and
- Coupling consultation service with InfoIQ instruction to reinforce concepts;

- Using new tools to aid in delivery of instruction (e.g., SAKAI collaboration tool)

Discussions are currently underway to utilize the SAKAI course and collaboration tool as a platform for delivering IL instruction to MBA field study teams. Planned instructional modules are:

- Collaboration in virtual environments (teamwork, information creation and sharing, communication)
- Business information resource research strategies (defining the need, selecting the resources, using resources)
- Personal knowledge management (organize, store, find, retrieve personal information)

This pilot will help ACIS further develop its information literacy vision and will serve as a proof of concept to Anderson school stakeholders.

Conclusion

Our vision for the InfoIQ program seeks to significantly reshape the way Anderson students interact with and use information and technology. By developing a formal and curricular-integrated framework of technology and information training that can be applied to the business world, we hope that what students learn and practice as students will benefit them throughout their careers. The successful convergence of library and computing services at Anderson Computing and Information Services (ACIS) has resulted in an organization with the unique ability and expertise to respond to the access paradox.

It is our hope that this report will provide a starting point for planning discussions to better utilize this convergence. We believe that stakeholders will recognize in this report, the value and necessity of this effort.

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