

From Information Systems to Informing Science: How the Transdiscipline will Transform IS Education

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Abstract

Information technology (IT) now permeates most every discipline; no longer is it the sole possession of business and science. On today's campuses its topics are incorporated into most, if not every, field of study. For example, the field of Education advances how to use information technology to teach students and to administer educational institutions. Journalism promotes the use of information technology to research material and create publications. Law faculties use information technology to seek legal rulings and present material in a courtroom. Much of what is taught in each of the fields in the use of information technology to inform their clientele is the same, but typically we academicians don't share our knowledge with other academicians across campus. In the past, we lacked a common platform for sharing our common knowledge, so each discipline had to rediscover the lessons that other disciplines had already learned. The transdiscipline of Informing Science provides this needed platform to bridge and cross-pollinate the disciplines that use IT to inform their clients. This paper discusses this emerging transdiscipline: its rationale, framework for understanding, journal, and conference activities.

Keywords: Informing Science; IS education; transdiscipline

Introduction

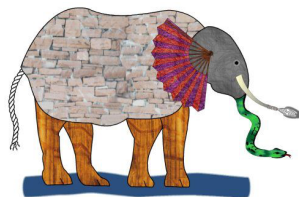
It was three men of Indostan
To learning much inclined,
Who went to see the Elephant
(Though all of them were blind),
That each by observation
Might satisfy his mind.

The First approached the Elephant,
And happening to fall
Against his broad and sturdy side,
At once began to bawl:
"God bless me! but the Elephant
Is very like a wall!"

The Second, feeling of the tusk
Cried, "Ho! what have we here,
So very round and smooth and sharp?

To me 'tis mighty clear
This wonder of an Elephant
Is very like a spear!"

The Third no sooner had begun
About the beast to grope,



Than, seizing on the swinging tail
That fell within his scope.
"I see," quoth he, "the Elephant
Is very like a rope!"

And so these men of Indostan
Disputed loud and long,
Each in his own opinion
Exceeding stiff and strong,
Though each was partly in the right,
And all were in the wrong!

Adapted from John Godfrey Saxe's
version of the Indian legend The
Blind Men and the Elephant. Source:
http://www.noogenesis.com/pineapple/blind_men_elephant.html

Numerous articles and papers warn that traditional university education is under threat (for example, Bertin, 1998; Cohen & Boyd, 1999). Distance learning and certification programs cause us to ask, "What is the role of the university?" and "What must we do to make it relevant to the work force of today and tomorrow?" We must find ways to make university learning more efficient and effective. Information technology is taught in almost every discipline and each discipline emphasizes the aspects of IT most relevant to it. Not only is the repetition of the topic a misuse of university resources, students do not get a coherent view of the concepts behind the use of technology to inform its users. We need to bring together those of us who use information systems to share our knowledge to develop a more effective understanding of its impact and uses in all of the disciplines.

What is Informing Science?

When colleagues who work in Information Systems first see the term "Informing Science", they think "I know what that is. It's another name for information systems. After all, does not IS = IS?" Actually, it does not. As the story of the blind men trying to understand the concept of an elephant illustrates, we perceive reality in light of our context, we all see reality filtered by our preexisting point of view.

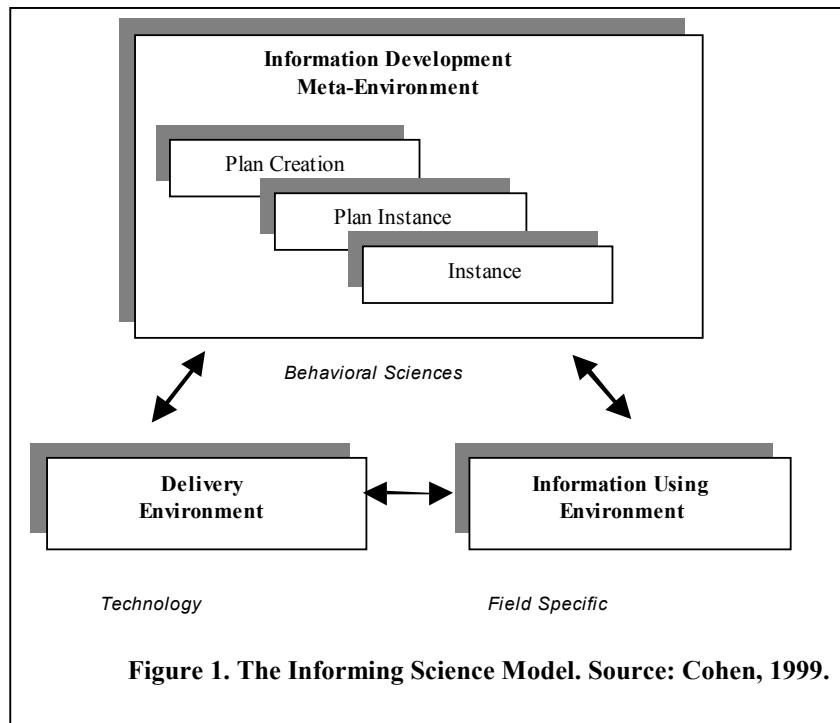
Informing Science is best described as a **transdiscipline**. This is the term Stafford Beer coined to describe it and some other emerging areas of inquiry.

Transdisciplines are broad fields of study that are not disciplines unto themselves and are not disciplines that merely cross the lines of two or three fields. A transdiscipline affects and is impacted by many fields and many disciplines. It provides a platform for fields to share knowledge and research across the traditional disciplinary divide of research methods and epistemologies.

Informing Science is the transdiscipline that studies issues related to informing clients. The actual client varies by field. In the field information systems, the client is the end user, manager, or customer. In library science, the client is the patron; in education, the student (among others); in journalism, the reader, and so on. The underlying issues of information technology and the underlying psychological and sociological issues are the same or quite similar for all these fields.

By definition, Informing Science is the transdiscipline whose goal is to provide clients with information in a form, format, and schedule that maximizes its effectiveness (Cohen, 1998). This definition is a direct adaptation of the definition of Information Systems proposed by Mason and Mitroff (1973). They wrote, "Information Systems is the field of inquiry that attempts to provide the business client with information in a form, format, and schedule that maximizes its effectiveness."

Informing Science was conceived from the recognition that various fields across campus were developing new interests that often coincided. We in Information Systems recognized this phenomenon when other fields



began teaching course content that we considered our core areas of expertise. We as a profession also recognize that Information Systems researchers work in three distinct areas (Robey, 1996). To this extent, there is no single field of information systems. We work in a field that multiplexes issues in business, IT, and cognitive science.

Figure 1 shows the Informing Science framework. A full explanation of the framework is beyond the scope of this paper, but it illustrates that all fields have in common the areas of technology and behavioral sciences. Their differences are in the information-using environment. The framework serves as a platform for current and future research. For a more complete explanation of information science, see Cohen (1999).

Pedagogy Issues

It is both a blessing and a curse for information systems professors that Informing Science includes education among its constituent fields. It is a blessing because research that we information systems professors conduct can be relevant to this transdiscipline. Indeed, the quality research on teaching and education conducted everywhere on campus provide a wealth of resources that benefits our understanding of information systems. It is a curse because some of our more shortsighted colleagues in the university have traditionally viewed education as unworthy of respect. Fortunately, this trend appears to be changing. At the April 2000 IRMA (Information Research Management Association) conference, the IT Education track received more than twice as many submissions as any other track; many papers in other tracks also dealt with teaching issues.

However, many of those that teach IS are still disregarding what the fields of education and psychology learned years ago about the best ways to present information so that it is meaningful to the receiver. The challenge for us is to create mechanisms by which we can work together and pool our knowledge. Since this contradicts the traditional university organizational structure of separate schools or colleges that rarely speak to each other and can create turf wars as areas with shrinking enrollment struggle to maintain their position, we must find creative ways to bring the fields together. A few of the ongoing projects are a web site to share information, a journal devoted to this topic, and a conference.

Teach IS Web Site

The Teach IS web site <http://gise.org> was created to support Informing Science Education (for both students and teachers). The site supports the study of Education and Training for the Informing Sciences globally (around the world and throughout organizations). It provides on-line resources for those interested in

advancing the interests of IS education. Professors may add links to their syllabi so that others can benefit from their efforts. Links to other course material and model curricula are also included, as well as to publications, such as the Journal of Information Systems Education, that are of benefit to IS educators.

Those whose institutions lack large financial resources are those most in need of this information, so the information on the site is free to everyone, supported in part through grants and advertising income. An average of 250-300 different people from all parts of the world visit the site every day.

Email List

Because the content of the Teach IS web site is continually updated, regular visitors need a way to be notified of the newest links. This is done through an email service that informs viewers of new resources that will be posted to the site, even before the resources are added. About 2,500 people receive this email every week. (Viewers can sign up to receive the weekly update by sending a blank email to TeachIS-subscribe@onelist.com.)

Journal

The principal journal of the field is *Informing Science* <http://inform.nu>. It has a readership of over 2000 colleagues around the globe and is in its third year of publication. In addition to individual articles on topics related to informing science, there are special issues related to a particular field, such as library science or multi-media. As mentioned above, because those with limited financial resources often cannot subscribe to a journal and/or are not aware of the journal's existence, articles are published on-line as soon as they are accepted and can be read free of charge by anyone from anywhere that has Internet access. Issues are printed quarterly for a fee for those who want or need to have a hard copy.

The journal's creators believe that the purpose of publishing research is to disseminate knowledge, not to make money for publishers. Too many journals are struggling with the costs of printing for a small number of subscribers. On-line publication removes the cost barriers and makes the research immediately available worldwide.

Conferences

Conferences are another way of sharing knowledge and present an ideal forum for bringing together those with different perspectives and backgrounds. The next Informing Science conference will be held in Krakow, Poland June 20-22, 2001. Since that is still over a year away, the conference website has not yet been launched.

The conference web site, <http://IS2001.com>, is in Krakow with a mirror in the US. The conference is scheduled so that colleagues can attend it and the European conference on IS in Bled, Slovenia during the same trip.

Current Research

These authors believe most current research published in the area is not yet truly transdisciplinary. It is rather more of a cross-pollinating nature in which researchers in one field share their research and perspectives with researchers in other fields. As such, Informing Science is more like the magazine Scientific American than the journal Nature. This is not necessarily bad. But we would like to change that by promoting focused research. One area we would like to explore is misinformation, or failure of systems to inform. We encourage those interested in pursuing research in this area to join us in the area.

Conclusion

The Internet has started a transformation process, breaking down the traditional barriers to communication in business and personal life. This transformation must also be applied to education. As IS educators we need to continue to explore ways in which to share our knowledge with those in other fields and to learn from them. This paper describes some of the ways in which this is currently being accomplished.

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