Chapter II

The Challenge of Teaching Research Skills to Information Systems and Technology Students

Beverley G. Hope
Victoria University of Wellington, New Zealand
and City University of Hong Kong

Mariam Fergusson
PricewaterhouseCoopers, Australia

As the information systems discipline grows, so do the number of programs offering graduate research degrees. These include one-year post-graduate (honors) programs, masters by research, and doctoral degrees. Graduate students entering their first research degree are faced with a quantum leap in expectations and required skills. The burden is significant: they need to find a referent discipline, select a research method and paradigm, defend the research relevance, and fulfill the requirements of adding to a body of knowledge. The purpose of this chapter is to inform discussion on the issue of teaching and learning graduate research skills. We identify the core research skills needed and present three pragmatic models for teaching them. This provides a basis for a shared knowledge and discourse based on lessons learned.

INTRODUCTION

Student experiences of conducting information systems and technology (IST) research in Australia generally begin in graduate programs. At the undergraduate level, IST education focuses on fundamental concepts, applications, and skills for practice. This vocational education acts as a terminating point for many students, but an increasing number are continuing or returning to graduate education in order to broaden their options in the labor market. Many of these graduate programs include a research component and, to meet the needs of employment-focused students, this research needs to be both rigorous and relevant.

The question is, how do we train people to become good researchers? What are the required knowledge, skills, and abilities of a good researcher? And how do we foster these in our students? If these are cognitive skills, *can* they be taught and learned? We believe the answer to the last question is a firm "yes." We learned to research; our students also can learn. But how best do we achieve this?

The objective of this chapter is to examine issues of how to foster research skills in novice IST research students. We propose a minimal set of skills and understandings (thought processes and concepts) as part of the researcher's repertoire, and outline some teaching strategies that can foster their development. The important assumptions underlying the chapter are:

•   research is situated, that is, what constitutes knowledge and good research are defined by the audience or discipline; and,
•   research skills are not innate, they are learned (and, consequently, can be taught).

THE IMPERATIVE FOR TEACHING RESEARCH

Research requires a spectrum of cognitive abilities, from the simple ability to establish facts to the more complex ability to judge and evaluate. In higher education we might reasonably expect students to be led through this spectrum to the point where they are able to criticize, to analyze, and to reach a deep understanding of knowledge. Typically, however, students are graduating from their first degrees in IST with limited research training and under-developed critical thinking skills. One reason for this may be that undergraduate IST education is seen as a professional qualification rather than the first step in an academic career. The need for practitioner skills and the ever-increasing knowledge base in IST leaves little time for research skilling. At the undergraduate level, we teach *what* is known, not *how* it is known. Furthermore, an increasing number of students are entering graduate programs with strong professional experience in lieu of academic prerequisites.

Related Content

Technology and Disabilities in the Century Ahead
Ray Kurzweil (2005). *Encyclopedia of Distance Learning (pp. 1798-1802).*
www.irma-international.org/chapter/technology-disabilities-century-ahead/12349

For an Intelligent E-Learning: A Managerial Model Suggestion for Artificial Intelligence Supported E-Learning Content Flow
Utku Kose (2015). *Artificial Intelligence Applications in Distance Education (pp. 149-160).*
www.irma-international.org/chapter/for-an-intelligent-e-learning/114445

High Performance Publisher/Subscriber Communication for Adaptive, Collaborative Web-Based Learning
Yugyung Lee, Markus Jungingerand James Geller (2003). *International Journal of Distance Education Technologies (pp. 14-27).*
www.irma-international.org/article/high-performance-publisher-subscriber-communication/1612

Culture, Interaction, and Online Learning
Janet Toland, Jonathan Frankand Karen D. Schenk (2005). *Encyclopedia of Distance Learning (pp. 485-491).*
www.irma-international.org/chapter/culture-interaction-online-learning/12150

A 3D Geometry Model Search Engine to Support Learning
Gary K.L. Tam, Rynson W.H. Lauand Jianmin Zhao (2009). *International Journal of Distance Education Technologies (pp. 100-112).*
www.irma-international.org/article/geometry-model-search-engine-support/3916