Poster paper

Investigating and Teaching Research

Linda Way
Department of Computing
Western Institute of Technology at
Taranaki, New Plymouth, NZ
l.way@witt.ac.nz

Introduction

In keeping with modern trends in tertiary education, the Western Institute of Technology at Taranaki has developed a Philosophy of teaching and Learning that basically encourages the development of intellectual independence. This poster presents the writer's personal reflections on the introduction of these techniques for teaching first year degree students fundamental research processes and skills.

Purpose

The purpose of this investigation was to determine appropriate teaching methods to foster this quality in students It was important to determine teaching strategies that would impart the required knowledge and skills, while fostering the desired 'intellectual independence', and positive attitude to learning.

Methodology

A literature review was completed to gather information from books, periodicals and the Internet. This entailed undertaking a thorough analysis of learning styles and philosophies, and the ultimate selection of the most suitable methodology.

Various approaches to research were also investigated, and a number of tools and techniques to assist in the process were collected.

The results of the above study led to a decision to employ methods based primarily on the constructivist paradigm, and those encouraging experiential learning. This involved the Students working in small groups of between three and five members, and, under the tutor's direction, employing a basic 'research methodology' (brainstorming, keywords, narrowing topic etc.) in order to identify for themselves an effective research process.

Discussion

Two research methodologies were identified from the internet as being equally useful and effective for tertiary students. These were Sarah Hughes four step method (http://www3.sympatico.ca/sandra.hughes/sandra.hughes/research/prepar. html) and a six step process from the Internet Public Library's "A+ Research and Writing" site (http://www.ipl.org/div/aplus/read).

It was decided to form teams of students, and to guide the teams, through the use of such tools as brainstorming, webbing etc., to discover for themselves the steps they would follow to complete a research exercise. The teams were directed through the process using the first step in the four-step process, namely 'Preparing for Research'. (This is similar to first 2 steps in the six-step process,' Getting Started' and 'Discovering and Choosing a Topic').

The teams first brainstormed 'research.' From the results they were then directed to select all the items that concerned the process involved in carrying out research. These items were then grouped with other like items, and ranked in the order in which they would be completed.

Results of each group were presented to the class, and then compared to the other groups'.

At this point, the four step and six step methodologies were introduced. The students were apparently pleased and surprised to find that they had generally produced research steps and processes substantially the same as those recommended.

Limitations of Research

Research was restricted to the writer 's personal reflections on her own teaching methods. The conclusions are based solely on the tutor's observations in the classroom environment, as the exercise was not directly assessed.

Conclusion

It was concluded that experiential learning was an appropriate method of imparting research techniques to this group of students, as it demonstrated to them that they already had considerable knowledge from other areas that could readily be transferred and applied to other situations and problems.