Available online at www.sciencedirect.com
SCIENCE DIRECT®
Computers & Education 47 (2006) 352–371
COMPUTERS & EDUCATION
www.elsevier.com/locate/compedu

Attitudes of entry-level University students towards computers: a comparitive study

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Received 27 May 2004; accepted 21 October 2004

Abstract

In this paper, we present the findings of a study of attitude changes of entry-level University students towards computers conducted at two South African Universities. Analysis comprised *t* tests to discover differences between the perceptions/attitudes of male and female respondents, English/Afrikaans speakers and those speaking the other indigenous languages, respondents who received some form of computer education and those that did not, between distance education and residential students as well as between those that attended Computer Studies at school with no other form of computer education and those that did not. We also compared our results to those of a similar study conducted at the University of Natal, South Africa in 1997. The results showed that there is a greater appreciation of the benefit of computers, less fear of computer power, a more realistic view of computers and also a lesser impression of computer power. The conclusion is reached that less time should be spent in the syllabi on convincing students as to the benefits of computing machinery, as well as allaying fears about computing power.

Keywords: Country-specific developments; Cross-cultural projects; Distance education and telelearning

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doi:10.1016/j.compedu.2004.10.011

1. Introduction

The widespread use and ever-changing nature of Information technology (IT) has led to a clamant need for understanding why people accept or reject the use of computers. In response to this need, researchers have conducted numerous investigations regarding the attitudes towards computers and the relationship between attitudes and behaviour (Armitage & Christian, 2003; Brosnan, 1998; Lee, 1970; Morrison, 1983; Sears, Rosen, & Weil, 1992; Shaft & Sharfman, 1996; Yang & Lester, 2003).

One of the earliest surveys was conducted by Lee (1970). Lee used a 20-item questionnaire to measure the attitudes of the American public towards computers according to two dimensions. The first dimension reflects the extent to which computers are seen as a beneficial tool, whilst the second dimension reflects the extent to which computers are seen as independent thinking machines. Morrison (1983) reused Lee's instrument to conduct a similar study with regard to the attitudes of students from the University of New England in Australia.

Since the work presented by Lee, many researchers have attempted to describe the attitude towards computers in more than two dimensions. Lloyd and Gressard (1984), for example, developed the Computer Attitude Scale, which measured computer anxiety, computer confidence and computer liking as key dimensions. In another study Byrd and Koohang (1989) added the dimension of perceived usefulness.

Finnie (1987) conducted a study of attitude changes toward computers exhibited by novice South African student users during a first course in Business computing. Lee's instrument was used to compare the attitudes of students based on their prior education regarding computers, their first language and their gender. The study indicated no significant differences with regard to prior computer education and first language usage, but indicated clear differences in the attitudes of males and females. Females had a less positive view of computers, a greater fear of computers in society and less technical appreciation of computers.

Since the work of Finnie (1987) little research has been conducted in South Africa regarding the attitudes towards computers. In 1997 Finnie and Clarke repeated the earlier study and measured the attitudes of two groups of 1st year university students (Clarke & Finnie, 1998). In contrast to the 1987 study, the results of the 1997 study showed that there was no significant difference on any factor between males and females.

Considerable research has also been conducted regarding tehcnophobia – sometimes also referred to as computerphobia. Technophobia can be defined as negative attitudes towards technology or computers (Anthony, Clarke, & Anderson, 2000; Sears et al., 1992). Anthony et al. (2000) conducted a study to examine the levels of technophobia of South African students enrolled for Computing. Their results indicated that technophobia was inversely correlated with computer experience. Furthermore, it was found that technophobia is weakly correlated with age, but not associated with gender. The fact that computer experience and gender are correlates of technophobia (and by implication also of attitude) is supported by many research studies (e.g. Abdelhamid, 2002; Bozionelos, 2001; Brosnan, 1998; Byrd & Koohang, 1989; Gurcan-Namlu & Ceyhan, 2003; King, Bond, & Blandford, 2002; Lim, 2002; Mitra, LaFrance, & McCullough, 2001; Shapka & Ferrari, 2003; Shaw & Marlow, 1999; Todman, 2000). However, the results of the different studies vary. For example, Shapka and Ferrari (2003) found no gender differences regarding the attitudes towards computers of teachers in training, as opposed to Mitra et al.