Chapter 2
Why Studying Individual Differences in CALL?

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ABSTRACT

The present chapter aims to highlight the importance of studying individual differences (IDs) in Computer-Assisted Language Learning (CALL). This study begins with a brief overview of drastic changes in educational delivery methods by wide application of technological tools and ends by developing a framework that emphasizes on the need for studying IDs in CALL settings. To gain a comprehensive support to develop this framework, an extensive literature review was conducted by focusing on a) instruction and technology integration, b) natural aptitude of Net generation for technology-mediated education, c) utilizing technology in language learning process, d) CALL properties, e) CALL advantages in second language learning, f) the effect of IDs in language learning, g) common taxonomies of IDs in language learning process, and h) the role of IDs in technology-mediated learning environments. This study motivates future research to find relationship between IDs and language learning CALL environments.

INTRODUCTION

Recently, widespread application of the Internet besides computers has remarkably influenced educational activities. Researchers further claimed that integration of technological phenomena into language classrooms is required for learning the second language. This integration assists in the presentation, justification and assessment of the language teaching and learning materials (Ramesh Babu, Komuraiah, & Phil, 2011) as well as enhancing the process of language learning (Borgman et al. 2008; Vandergriff, 2006). These explain why numerous online courses have been offered in colleges and universities all around the world for the past decade (Levine et al., 2011).

This in turn, has greatly influenced the application of computer-assisted language learning (CALL) in educational institutions (Son, 2008). According to Hismanoğlu (2010) and Md. Yunus et al. (2010), the Internet is commonly accepted as a pedagogical tool for enhancing language learning and teaching. However, it is emphasized that application of technology should be aimed at achieving the educational objectives (e.g. Levy, 2009). This is why Njenga and Fourie (2010) warned that the lack of comprehensive educational studies on the application of technology will jeopardize the intended improvement on the students' learning experiences. In this regard, Lever-Duffy and McDonald (2008) who studied technology-mediated learning (TML) process emphasized that comprehensive studies in this field should encompass individual differences as fundamental elements.

By reviewing the most important learning theories, Lever-Duffy and McDonald (2008) proposed that further investigation on psychological views of human behavior or individual differences (IDs) enables the researchers to gain a deeper understanding of how learning takes place in technology-mediated settings. The authors emphasized that IDs are the essential factors which affect not only learning in the traditional classes but also technology-based educational settings.

The significance of IDs remains imperative in the field of technology-mediated learning (TML) environments as revealed by a number of studies (i.e. O'Neil, Spielberger, & Hansen, 1969; Muylwijk, Veer, & Waern, 1983; Chapelle & Jamieson, 1986; Meunier, 1996; Al-Seghayer, 2001; Hills & Argyl, 2003; Abrahamian et al., 2004; Colorado & Howell, 2010). In this regard, Morgan and Morgan (2007) endorsed the enormous potential effect of IDs in the educational technology area.

These echo Chapelle's (1997) assumption that CALL research studies establish the learning theories similar to the field of psychology. Hence, it can be concluded that the effect of psychological traits or IDs on the process of learning is important regardless of the setting, be a technology-mediated environment (e.g. CALL) or the traditional classes. This is further addressed by Gill, Nowson and Oberlander (2006) and Selim (2007) who proposed that students' ID is one of the critical success factors in TML.

However, investigating the significance of IDs in CALL environment as a type of TML settings looks underemphasized and it is timely to highlight the need for studying IDs in CALL to do further empirical researches. This chapter directs attention to the effective role of IDs in CALL environments by reviewing the related literature.

BACKGROUND

Technology and Instruction

In the 21st century, remarkable improvement in technology has drastically changed the teaching and learning scenario. According to Kern (2006), technology is a medium as it provides sites for interpersonal communication, multimedia publication, distance learning, community participation, and identity formation. Nowadays, the significance of technology as a key tool in the process of teaching and learning is highly emphasized. For example, Lever-Duffy and Mcdonald (2008) stressed that technology supports both the teaching and learning process. They also described teaching, learning and technology as a holistic system that work together to achieve the ultimate goal of effective knowledge transfer.

Technology often is associated with equipment such as computers but there is a broader meaning to the word (Schunk, 2012). Previously, technologies applied in classrooms were limited to televisions, movies, slide projectors and the like. Today, the presence of the internet has offered a variety of educational

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