Chapter 8
Overview of the Significance of Different Learner Characteristics in Computer–Based Language Learning Environment

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ABSTRACT

In this chapter the importance of different types of individual differences in various computer-based language learning situations was investigated and the findings of some research on language learners' characteristics in the context of technology-based learning were outlined. Through extensive review of research studies and articles, it attempted to determine different learner characteristics existing in learning foreign/second languages with technology. It also discovered the most effective individual differences among language learners of computer-based environments to be used by EFL teachers and materials developers to help learners' progress in language education.

INTRODUCTION

With the emergence of the Information Age, the need for information and demand on education increased relatively in the society. As technology is playing rapidly and increasingly an effective role in the world, it influences education as well and people's expectation on being independent from time and place limitations. The importance of technology in students' learning (Tsou, Wang, & Li, 2002) and teacher education (Bordbar, 2010) is documented. Literature provides some evidence of the impact of using Information and Communication Technologies (ICT) in education; although, the integration of computers into education has a relatively brief history. The earliest studies were attempts to establish programs that would provide students with rapid feedback and thus help students take an active role

in the learning process. Later more flexible and interactive technology-based learning environments emerged that proved to have great potential to support student-centered learning (Inan & Lowther, 2007).

According to Martin, Khaemba and Chris (2011), ICT contributes to the improvement of school education by:

1. providing powerful learning tools and enabling access to new resources across all areas of the curriculum,
2. contributing to the achievement of National Goals,
3. enabling increased access to education for students in remote areas, and
4. enabling improvements and efficiencies to be made in the administration of schools and education (p. 31).

But the important point that should be taken into account is that people learn differently, depending on where they live and what their cultures and their motivations are. Each student has his or her own individual needs and characteristics, such as prior knowledge, motivation, cognitive abilities, and learning styles (Graf, Liu, & Kinshuk, 2010). Students' individual differences play a central role in learning as well as in technology-based education. To ensure an equal teaching/learning experience for all students, it is necessary to understand the learning preferences, strategies, and styles of the students being taught.

Investigations of student learning preferences have shown that among the variables that influence the success of learning some such as, gender, age group, prior experience, discipline of study, and learning styles are considered particularly important (Ford & Chen, 2000). Similarly, Lever-Duffy and McDonald (2008) explained that psychological variables are among the essential factors affecting learning, both in traditional classes and technology-based educational environments. Literature has revealed that certain characteristics such as age, cultural background, computing ability, computer attitudes, and motivation are crucial factors to be considered in ICT integration research as these factors affect the eagerness of students for using the computer for learning purposes (Liaw, 2008).

It is known that identifying learners' differences helps educators understand how people perceive and process information in different ways. As a result this study aims to help EFL teachers and educators recognize the learners' differences in learning with technology and take into account these characteristics to adapt their teaching materials and course objectives to the students' needs and preferences. Moreover, it was expected that as a result of this study, end-users of technology-based education, teachers and learners, be informed of the most effective individual differences in order to apply them in their learning/teaching process to guarantee higher achievement.

In order to attain the research goals, several qualitative and quantitative research studies and articles written on learners' characteristics involved in learning through technology were reviewed and their main related findings were outlined in order to understand various characteristics and differences that learners have in learning situations using technology in general and computers in particular.

INDIVIDUAL DIFFERENCES

The belief that individuals learn differently is one of the main considerations of the modern theories in education. Cognitivist and constructivist theorists have postulated that learning and instruction are relevant to individual differences. Although there are many factors that may impact learners' ultimate

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