Chapter 14
Individualization of Foreign Language Teaching through Adaptive eLearning

Katerina Kostolanyova
University of Ostrava, Czech Republic

Stepanka Nedbalova
University of Ostrava, Czech Republic

ABSTRACT

Lifelong learning has become an essential part of each profession. For this reason, personalized and adaptive learning has been drawing attention of professionals in the field of formal as well as informal education in the last few years. The effort has been made to design adaptive study supports regarding students' requirements, abilities and current knowledge. In the Czech Republic, particularly at the University of Ostrava, a team of educators, didactics professionals and IT professionals has been applying their mind to personalized learning in the electronic environment. They have been developing a suitable learning environment to fit students' learning styles. The paper describes a general model and a theory of adaptive eLearning from the perspective of the University of Ostrava professionals. It also demonstrates hard facts of the research in the field of language learning. This paper, Individualization of foreign language teaching through adaptive eLearning, is an extended version of the paper published in the ICWL 2015 workshop proceedings.

1. INTRODUCTION

Individualization of education is a topic of current interest. With the use of the eLearning adaptive tools, the individualization of education could become very effective as this form of education could be adapted to the student's personal characteristics (Sak, 2007).

Undoubtedly, there is a way to make the education process in the classroom easier for students. However, it is more challenging to satisfy the needs of every student than to follow the individualized approach to education through information and communication technologies. Furthermore, the student

can be provided with study materials according to their preferences. In contrast to the unified approach to a heterogeneous group of students in the classroom, the characteristic elements of these preferences can then be used more frequently in study materials.

As far as the heterogeneous group of students is concerned, the teacher tries to deliver the information to students in several ways in order to satisfy their educational preferences (Gregorc, 1979). This reduces the time that can be spent on the particular curriculum and makes the education process less effective. Moreover, if the student is taught with respect to their personal characteristics, they are likely to achieve better study results (as far as the gain of knowledge is concerned). It is to be assumed that the student will be more motivated, which will result in the greater sustainability of gained knowledge (Honey, 2010; Mares, 1998).

2. THEORETICAL BACKGROUND

If one looks at the history of individualized education and cybernetic approaches, one learns that in the 1960s algorithmization started to be implemented to the education process, which laid the foundation of the so-called programmed learning. This theory was systematically elaborated by B. F. Skinner (Nye, 1979). The curriculum is divided into small, content-compact units, which enable effective optimization of education according to the student's personal characteristics.

N. A. Crowder complemented Skinner's principle of linear program (Watters, 2015) by a branched multiple answer program (a process of diagnosing errors with the possibility of individual correction). In order for the managed education systems to be effective, they need to meet three main requirements. The first is the input sensitivity. The second is output effectiveness of the control system. And the third is a program of the impact on the managed system. This program works as a connecting link between the system's "sensors and effectors" (crowder.org, 2010).

The combination of adaptive and adaptable systems offers an optimal solution for adaptive education through eLearning. The theory of adaptive eLearning is a topic that touches at least 3 areas – pedagogy, psychology and informatics (Kostolanyova, 2012).

As far as the Czech Republic is concerned, the Pedagogical Faculty of the University of Ostrava in cooperation with VŠB-Technical University of Ostrava deals with the theory of adaptive eLearning. The main idea of the theory is personalization of education, which consists in the education process being adapted and personally tailored to every student's personal characteristics. It is an adaptation, searching and compiling of the educational content (Kostolanyova, 2013). The proposition of the complex adaptive model of education is based on finding the student's input characteristics, creation of a suitable adaptable study material and the formulation of adaptive algorithms. The theory of programmed learning has been included among pedagogical-algorithmic solutions of the adaptive eLearning principles (Kostolanyova, 2012).

The educational environment is considered adaptive when it is able to monitor and interpret the users' activities, deduce their preferences and requirements according to the interpreted activities and – on the basis of this information – dynamically modify the education process (Chapelle, 1998; Chen and Chung, 2008).

Adaptation of instruction can have a number of forms which can be divided into the following categories:

● Adaptation of the user interface,

16 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/individualization-of-foreign-language-teaching-through-adaptive-elearning/233097

Related Content

Critical Praxis Through a Social Media Ecosystem
Eric Chao Yang (2022). *TESOL Guide for Critical Praxis in Teaching, Inquiry, and Advocacy (pp. 344-372).*
www.irma-international.org/chapter/critical-praxis-through-a-social-media-ecosystem/286947

Point of View in Translator's Style: A Corpus-Based Analysis of Two Chinese Translations of Moment in Peking
Yang Liu (2022). *International Journal of Translation, Interpretation, and Applied Linguistics (pp. 1-13).*
www.irma-international.org/article/point-of-view-in-translators-style/313921

A Survey on the Acceptability of Equivalence-Based Translation Into Yorùbá Language in the Domain of Information and Communication Technology
Jethro Akinyemi Adejumo (2019). *International Journal of Translation, Interpretation, and Applied Linguistics (pp. 1-16).*
www.irma-international.org/article/a-survey-on-the-acceptability-of-equivalence-based-translation-into-yorb-language-in-the-domain-of-information-and-communication-technology/222823

Cultural Management 2.0
Margarita Cabrera Méndez (2014). *Cross-Cultural Interaction: Concepts, Methodologies, Tools, and Applications (pp. 1330-1338).*
www.irma-international.org/chapter/cultural-management-20/97534

Witness or Interpreter?: Converting a Litigant Into a Court Interpreter in a Self-Interpreted Testimony Presentation
Akungah O'Nyangeri, John Habweand Zaja Omboga (2022). *International Journal of Translation, Interpretation, and Applied Linguistics (pp. 1-20).*
www.irma-international.org/article/witness-or-interpreter/314790