

Chapter 4

Transformation of Individual Learning through Informatics and Information Technology Activities in Primary School

Valentina Dagiene
Vilnius University, Lithuania

Vaiva Grabauskiene
Vilnius University, Lithuania

ABSTRACT

The topic of the individual learning conditions creation can be analysed from the technological as well as pedagogical side. In both cases there is the same fundamental point: how to create valuable and as much as possible natural learning environment? The experience in the application of technologies for personalisation, analysed in scientific literature, reveals newer possibilities for the individual activities support. This encourages taking a different route in analysing individual learning – to interdisciplinary combine the content of close concepts. The paper deals with basic concepts of interdisciplinary content analysis – informatics and information technology impact to an individual learning in primary school.

INTRODUCTION

Learning is usually defined as a change in someone's behaviour, knowledge, level of skill, or understanding which is long-lasting or permanent and is acquired through experiences rather than through the process of growth or ageing. Learning

is understood as the influence of the characteristic individual creative experience application to the individual himself. Changes in behaviour, knowledge, capabilities, understanding, determined by the experience, are individual to each person.

However, learning is inseparable from the social context. On the one hand, it is not the society, but the individual that creates knowledge (LaDuke, 2008). On the other hand, the intellectual

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potential of the social environment is reflected in the individual ideas and capabilities. In addition, ICT and alteration of the education priorities also change individual learning. Design of the optimum learning environment, realisation of the chosen learning/teaching aims, as well as organisation of the individual learning/teaching activities are becoming the objects of interdisciplinary discussion between the researchers of the pedagogy and information technology.

When talking about the individual learning through informatics and information technology activities in a primary school, the uniqueness of the individual has to be allowed for twofold: peculiarities common to all primary classes' children of common age as well as those unique to each of them have to be noticed. Therefore, the models of informatics teaching and information technology application created for the senior pupils do not fit for the primary school pupils. Further, it is noteworthy that the personalised learning environment design is burdened with the difficulty of matching the interdisciplinary pedagogical and technological positions.

The aim of this paper is to characterise individual learning through informatics and information technology activities in a primary school while analysing the notional nuances of technological and pedagogical concepts and going into the topic of the learning environment that fits to the primary school children.

The method of graphical visualisation of the concepts has been used in order to look at the content of adjustable concepts in more detail. Expressing the concept in a different form can help spotting extra similarities and differences of the concepts. From the cognitive standpoint the alteration of the visualisation method helps to understand better by discovering the foundation of the comprehension (Duval, 2002).

The means of visualisation has been chosen to be a metaphor of the geometric figure. This particular metaphor was chosen because of its functional similarity.

In order to reach the aim of the paper, personalisation types (Fan & Poole, 2006) have been used. This interdisciplinary personalisation typology, created based on ICT application, is grounded on a vast variety of personal individuals' requirements. Hence, such a typology could be valuable in elaborating the notion of the natural learning environment.

Main questions for which answers are sought in this paper: what interdisciplinary information fits into the concepts used for the description of individual learning? What informatics activities are topical in the primary classes? How can application of the informatics and information technologies transform individual learning in primary schools?

FOCUS ON INDIVIDUAL LEARNING ACTIVITIES

The problem of individuality is topical for designing equipment and software, a learning, communication and dwelling environment, organizing markets and search for information.

The teaching is called individualised as a student has a possibility to apply the known matters going into depth of the matter he has to learn. In such sense, learning individualisation is the aim, which manifests in the practice through the form individual learning, face to face learning, differentiated learning, and personal learning.

Individual learning can be described as allowing students to learn at their own place and according to their own preferred learning style, and to cover those areas of the syllabus or lesson which are necessary to their learning. It is an approach which necessitates the teacher having a clear understanding of learning needs of a student. Such learning can be named as absolute individualisation. In theory, individual learning is also possible when teaching the whole class. It is an approach, in which all individual student's distinctions are taken into account while teaching

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