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SPECIAL ISSUE: PSYCHOLOGICAL ASPECTS OF LEARNING

The current special issue of Psychological Studies is a collection of review articles, empirical reports and descriptions of good practices in education. Most of the articles were made in conjunction with the international East – West Conference on Mathematics Education (EWCOME 2014, August 2014). The aim of the conference was to gather knowledge on innovative teaching methods, multilingualism and multiculturalism in education, as well as psychological variables affecting the development of school competencies. We hope that the texts contained in this issue will also convey the idea of the conference, which was to break down the barriers of interdisciplinary and international collaboration.

A good example of successful cooperation in education is described in a paper by Agata Zablocka-Bursa, Katarzyna Winkowska-Nowak and Andrzej Nowak. They present the results of an assessment of teaching effectiveness in conducted at the Regional Training Centres for E-Learning (ROSE). Their work is an illustration of the possibility of forming „hard” e-competencies, while also fostering a cooperative educational climate, leading to an increase in the level of mutual trust and desire for further self-education. The authors show that people undertaking training should be treated as agents of social change and provided not only with knowledge of the subject but also with communication and social skills which enable them to propagate extensive changes in their local environment.

Magdalena Kaczmarek and Piotr Kaczmarek-Kurczak also present empirical data on training effectiveness, this time in the field of entrepreneurship. The Authors looked at the personality characteristics and sense of efficacy (personal capital) of the trainees. Their findings suggest that training in entrepreneurship should focus primarily on developing competencies useful in establishing and running businesses (knowledge about this type of work) as well as meta-cognition, self-awareness of the level of those competencies. Motivational factors are merely a derivative of the previously mentioned variables.

Papers discussing the psychological aspects of education in the context of development, emotional, physical activity and cross-cultural interactions begin with Radoslaw Kaczan and Piotr Rycielski who discuss the impact of pre-school education on later social-emotional development. They present a study, conducted on a representative sample of primary school students, which shows that the number of years spend in pre-school education are predictive of further performance in the field of mathematics, reading and writing at the age of 10 years. These results clearly indicate a positive relationship between the number of years spend in institutions of early childhood education and the level of „cognitive capital”.

Agata Kozlowska presents an overview of research on the emotion of anger in an educational context. She shows how anger, resulting from a subjective perception that the educational situation requirements exceed the competencies of an individual, or from a perception that the feedback received is inadequate, influences cognitive processes. Anger can lead to an increase in the
time spent on the task, but also narrows the field of information processing, leading to superficial ways of learning and to an approach to education, which does not focus on gaining new skills, but rather on comparison of one’s performance with other students.

Barbara Zarzecka, in a concise summary of the relevant literature, argues that physical activity has a positive impact on a wide range of cognitive functions. She lists the possible mechanisms of this process, such as the level of oxygen saturation, or changes in the level of neurotransmitters. Although we are still far from a complete understanding of the relationship between different forms of physical activity and efficiency of education in different contexts, there is certainly a possibility of giving certain general recommendations for practice.

Daniel Hekiert discusses the impact of cultural context on the beliefs about learning and the educational process. She indicates that rewarding individualism and independence in the educational process is specific to the Western cultural background (the tradition of Socrates vs the tradition of Confucius). Taking into account the cultural background is necessary because cognitive scripts and intuitive expectations for desired behavior in a given context are an inevitable part of any evaluation process. It is important for the quality of education to remain conscious of the fit between educational expectations of the student, parents and teachers.

At the end, we present two articles related to teaching of mathematics. Olga Mukoseenko, based on their experience with Priazowski State Technical University in Mariupol (Ukraine), discusses various methods for teaching mathematical knowledge and their potential effectiveness. First of all, the use of visual elements in the teaching of mathematics has been shown as effective and in accordance with student preferences.

Anna Kucharzewksa describes the fascinating history of mathematics, showing that the understanding of mathematics is associated with the perception on what are the optimal ways of teaching this subject. During the ages, perception of mathematics shifted from looking at it from the prism of everyday, concrete actions aimed at systemizing practical activity, towards perceiving this subject by abstract forms and symbolic relationships present in science. This process, reminiscent for the individual process of cognitive development, is also reflected in teaching methods. As argued by the Author, currently the teaching of mathematics requires the optimal use of digital technologies.

We hope that our regular readers will find something of interest in this special issue. We would like to thank all the Authors of their submitted manuscripts, as well as all of the Reviewers whose work contributed significantly to the quality of the published papers.

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