

# CONTEMPORARY TOPICS IN EDUCATION IV

Edited by Janez Vogrinc and Iztok Devetak

University of Ljubljana  
Faculty of Education



# CONTEMPORARY TOPICS IN EDUCATION IV

PART I

*Editors*

**Janez Vogrinc and Iztok Devetak**

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## CONTEMPORARY TOPICS IN EDUCATION IV

### Part I

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## INTRODUCTION

The education system is always, at least to a certain extent, state-regulated. The states usually frame the conditions of the education system in their school legislation (e.g. duration of compulsory education, children age when entering the compulsory school, types of secondary schools, enrolment requirements at university, the teachers' conditions to be fulfilled for employment in school, etc.). Teachers and other pedagogical staff have the opportunity to find and/or adapt and develop the most appropriate didactic solutions within the legal framework (e.g. how they will deal with specific teaching content, which teaching approach is most appropriate in view of the students' characteristics, etc.). Due to the regularity of the educational system and the fact that the specifics (historical, cultural, and social) of each country are reflected in its educational system, the research of the specific educational system is for that matter also nationally bound. Certain problems in education, which can be meaningful for research within one country, are not relevant for another country, because there are different solutions suggested in its school system. For that matter it is certainly true that researchers in education take up topics that are significant for their country, but at the same time, it is also important to conduct education research in a way that can be generalized globally. In the school environment, too, it is important that there should be an exchange of experience, examples of good practice and scientific knowledge. This scientific monograph **Contemporary topics in education IV** is also intended for these purposes. It presents 12 chapters covering different school areas and its authors come from 4 countries (Slovenia, Kosovo, Austria and Croatia).

The chapter **Preschool Teachers' Assessments in Early Identification of Creative - Productive Giftedness**, written by **Jasna Cvetković-Lay** and **Mojca Jurišević**, focuses on the concept of creative-productive giftedness (CPG), which is operationalised through outstanding children's products in the context of pre-school institutions. The aim was to: (1) determine which indicators in the process of early identification of CPG are given the greatest importance by pre-school teachers; (2) identify the differences in teachers' assessments of outstanding products and the characteristics of the child expressed in them; (3) compare the assessments of pre-school teachers with those of pre-school psychologists. The results have shown that, regardless of differences in professional competencies, preschool teachers rate children's products and passionate interests as the most important indicators for early identification of giftedness. Statistically significant differences were found in the assessment of the creative and technical characteristics of outstanding

products and the characteristics of the children expressed in them. A high degree of agreement between pre-school teachers and psychologists in the assessment of creativity and the expressiveness of the outstanding features in the products was observed.

**Alenka Dražič** discusses in the chapter **Non-formal chemistry education in Slovenia** about learning science in non-formal to formal environments. In the first part of the chapter, it is proposed to distinguish three types of learning: formal, informal and non-formal learning. It examines the links and differences between these three types of learning. The second part presents some good practices of science teaching, with a focus on chemistry teaching outside school learning environments in Slovenia and internationally (such as in non-formal education laboratories at universities). The third part of the paper discusses effective aspects and limitations of non-formal science and chemistry learning.

The aim of the chapter **Guided active learning in Chemistry (GALC) and 13-year-old students' selected chemistry concepts understanding**, written by **Jasmina Kolbl** and **Iztok Devetak**, is to present two studies on GALC approach in chemistry education. The first study investigated the influence of the GALC on the conceptual understanding of hydrocarbons by 8th grade students (13-14 years) and the teachers' views on the use of these modules in the classroom. The experimental group was exposed to the GALC learning units, while the control group was taught using the traditional approach (teacher's explanation, question and answer, writing, etc.). In addition, the first study also presents findings on how a new teaching approach influences students' attitudes towards chemistry and collaborative learning. The second study shows the results of the application of the GALC modules on acids and basis chemistry. It can be concluded that the effects of GALC on students' learning outcomes in relation to hydrocarbons show that, on average, students perform better on the knowledge test in the experimental group (learning by GALC approach) than in the control group.

The aim of the study conducted by **Martina Lešnjak Opaka**, which is presented in the chapter **Elementary school teachers' opinions on learning and teaching in the digital age**, was to find out how primary school teachers perceive the role of digital technology in teaching. Five primary school teachers were involved in the qualitative research. Digital technology is neither seen by teachers as a savior nor as an enemy. They see the mediating role of the teacher and the educational system as the ones responsible for its effects. They express many limitations they encounter and the need for additional knowledge, time and resources. A major role in educating children to deal with the digital world has been assigned to primary family education.

The chapter **Principals' role in the development of professional learning communities**, written by **Rexhep Krasniqi**, provides a comprehensive framework on the concept of learning communities, their impact on teachers, factors influencing their activities, and the role of the school principal in creating conditions for the professional development of teachers. It concludes with a set of practical recommendations that could be used by teachers, school leaders and other educational actors involved in professional learning community activities. Considering that the vast majority of research on professional learning communities (PLCs) is conducted in well functioning systems and that the results obtained by PLCs are positive, the author stresses the functionalisation of PLCs in poorly functioning schools and systems.

The aim of the chapter **Institutional Autonomy of Public Universities in the New Context: A Perspective from a Developing Country**, written by **Iliriana Tahiraj**, is to examine how institutional autonomy is regulated in Kosovo and how elements of institutional autonomy affect the operation of the country's largest public university. The data were collected through five semi-structured interviews with some of the main actors in higher education and analyzed within the four dimensions of institutional autonomy as presented in Lisbon Declaration (2007): academic, financial, organizational and staff autonomy. The results show that all respondents agree that institutional autonomy, as contained in existing laws, is similar to most other countries in Europe, while the need to strengthen the position of the Rector and the need for increased cooperation to reduce the gap between the Ministry, the Rector and the Deans were identified as main concerns.

**Nina Rupel and Jurij Selan** in the chapter **The significance of virtual experience for drawing performance of a 7-year-old child**, they present the case study in which they observed how the mediation of a motif in three different ways - in a direct physical interaction, on a (tablet) screen and with virtual reality glasses - influenced the drawing performance of the 7-year-old boy. On this basis, the authors consider how virtual experiences in visual arts education can be used to develop artistic competence. The interpretation of the data points to a potential benefit of the use of the screen and virtual media in artistic development, which is particularly important for 7-year-olds in the transition to the literacy phase. However, virtual experience cannot replace physical experience in the art process, as physical experience is the one that confronts the child with the complexity of the artistic process by activating all artistic senses.

**Urška Žerak, Mojca Juriševič and Sonja Pečjak** in the chapter **Differences in students' self-regulated learning according to their age and gender** present the results of empirical research about students' ability to self-regulate

learning behaviour. The dominant learning type (i.e., external, impulsive, self-regulated) of 175 students from primary school in Slovenia ( $M_{\text{age}} = 11.49$ ,  $SD_{\text{age}} = 1.73$ ; 84 girls and 91 boys) was investigated, using self-report questionnaire FSL-7. The results revealed that the majority of students are self-regulated learners. Moreover, according to the students' age, it was found that older students are more impulsive learners than younger ones, and that female students are more self-regulated and less impulsive learners than male students.

Chapter **The potential of online practice materials in English language teaching to increase achievement and to decrease anxiety**, written by **Eva Gröstenberger** discusses the potential of on-line practice materials in English teaching to respond to the needs of individual learners and thus improve their performance. She presents the theoretical considerations and practical applications of designing an online learning environment that can make learning visible and encourage learners to focus on their own sense of progress, giving them a sense of action and increasing their self-confidence. The author investigates how the interactive, multimedia component of the blended learning course can be designed as a low-anxiety environment through various design principles such as scaffolding or feedback.

Chapter **Exploring the contribution of mentor's feedback on development of student teacher' lesson planning skills and instructional strategies**, written by **Elmedina Nikoçeviq-Kurti**, and **Blerim Saqipi** provides a model for the development of the students' teaching experience, which is useful for the effectiveness and efficiency of student teachers to carry out appropriate lesson planning and develop teaching strategies. The results are based on a qualitative study and show that student teachers do not collect enough feedback and hesitate to teach because of doubts about teaching skills. This had an impact on the inability of school mentors to give feedback more often.

**Rudloff Christian** presents a **Design-Based Research - a model to connect theory and practice in research**. The aim of this approach is to solve problems in educational practice. Development and research take place in continuous cycles of design, implementation, analysis and re-design. In the Design-Based Research approach, the initial situation is first analyzed, an intervention is developed, described and tested, and finally evaluated and modified in iterative cycles.

**Luljeta Belegu Demjaha** in the chapter **The Influences of Teaching and Learning Process in the School Infrastructure Design** discusses the importance of the relationship between school design and teaching and learning environments and the requirements of curriculum reform. She conducted

qualitative research in Kosovo and found that the process of designing school infrastructure in education is seen as a task for architects and designers and not yet something that affects educators. Thus, the process of designing school settings is still far from being an inclusive process, as the role of teachers, students and parents in this process is practically non-existent.

All chapters in this book contribute specific parts to the field of educational research not just in Slovenian context but also internationally. Readers can find information about different areas of education. Chapters explore students' giftedness and their ability to self-regulate learning behavior. Chapters deal with the importance of information-communication technology in education, and teachers' competences to use ICT is also an important educational element nowadays. However also other pre- and in-service teacher education topics are covered, from teachers' professional development to exploring the contribution of mentor's feedback on development of student teachers' lesson planning skills to the importance of tertiary education organization, such as the autonomy of public universities. Leaving the university education, teachers enter school environment and their work achievements depend also on the specific school infrastructure design. Scientific monograph also covers more specific topics from science and art education to language education. To make the picture whole it is important to emphasize also the meaning of research in education. For that matter one of the chapters also covers relevant issues in connecting the theory and practice in educational research.

Covering a broad spectrum of different topics in educational research this scientific monograph will contribute to the growing body of research in this field and hopefully gives the readers relevant aspects in designing their own research or implementing the research findings into teaching practice at all level of education.

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