Editorial

The thematic focus of the first issue of the Centre for Educational Policy Studies Journal (CEPS Journal) is educational innovation, one of the crucial starting points for quality educational work in today's fast changing world. All over the world, there are many innovations in science and technology, changes in economics and politics, and transformations in demographical and social structures; the educational process needs to respond to these changes adequately. As early as in the 1960s, the professionals of the Club of Rome (Marentič Požarnik, 2000, p. 282) drew attention to the contrast between the limited natural resources and the unlimited possibilities of human learning. They stressed the meaning of innovative learning based on predicting the future, with an emphasis on creativity, long-lasting effects and the democratic collaboration of everybody connected with future decisions. Similarly, Instanc (2008) questions which competencies the children of tomorrow should develop and emphasises the meaning of critical thinking and an ability to solve problems, creativity, communication skills and mutual collaboration. In the Memorandum on Lifelong Learning, the Commission of the European Communities also accentuates the importance of innovations in teaching and learning, and of suitable circumstances for permanent learning for all social roles (Commission of the European Communities, 2000, p. 14).

When considering the necessity of educational innovations, besides rapid changes in information, many other reasons come to mind, such as research findings about quality instruction and learning, more and more demanding educational objectives and the growing heterogeneity of students. Moreover, there are elements of global competition between governments of different countries aiming at developing human resources and human capital, which is reflected in the increased measurement and comparison of school efficiency and effectiveness. National and international exams are thus becoming "part of the political debates about productivity and the globalization of educational objectives" (Jorgenson, 2006, p. 9).

With their readiness and motivation for quality teaching and other professional work, teachers clearly present the main incentive for innovation in educational practice on all school levels, from kindergarten to university.

Teachers need to be ready for lifelong learning and their work environment should be a safe place to "experiment" and introduce

professionally founded pedagogical changes. The main question is how to properly balance the demands for changes; on the one hand, they bring research excitement, extra work, uncertainty, doubt and the need for the argumentation and evaluation of changes, while, on the other hand, there is the need for organisational stability and the long-term consolidation of the changes introduced. Every introduced innovation demands an all-round evaluation of its effects.

The constant introduction of changes without allowing them to become established in practice and without evaluating their effects is professionally unacceptable.

The origins of educational innovation differ; in a broad social perspective they can be results of research on specific segments of the school system, students' results in international exams etc., while from the point of view of the individual teacher or group of teachers, innovation can be induced by curiosity, wanting to learn more about learning and teaching, or by recognising a problematic situation and dissatisfaction with the current situation on the school level, the broader professional level or the didactic level of the classroom. Didactic innovations are seen as the process of forming theoretically based and practically founded changes in instruction that result from intentional, planned and creative work of teachers and/or researchers, leading to improvement of current school practice on the levels of the teacher's didactical skills and his/her conceptions, standpoints and reflection, school climate, and the teacher's understanding of his/her own professional development.

Eight articles in the present issue discuss educational innovations. In the paper *Investigating the Effectiveness of a Dynamic Integrated Approach to Teacher Professional Development*, P. Antoniou, L. Kyriakides and B. Creemers propose a dynamic integrated approach to teacher professional development. This model was developed in order to establish links between educational effectiveness research and improvement practices. Teacher professional development is considered an essential mechanism for deepening teachers' content knowledge and developing their teaching practices in order to teach at a high standard. Despite the number of studies on teacher professional development, the majority of these studies do not measure the impact of different approaches and programmes on student learning outcomes. In this context, the present paper argues that research on teacher professional development should draw from validated theoretical models of educational effectiveness research in order to develop teacher professional

development programmes that will not only have an impact on improving teacher knowledge and skills but will ultimately raise educational standards. The results of an experimental study comparing the impact of different approaches to teacher professional development are presented in the paper. Teachers employing the dynamic integrated approach managed to improve their teaching skills and the use of this approach also had a significant impact on student achievements.

Studies and preparation for the future profession have a significant impact on the ability and willingness to research and investigate teaching and learning practice. In order for teacher training institutions to carry out their mission effectively, it is important that they monitor students and novice teachers and evaluate their level of achieving the intended competencies. In the article *Educating Student Teachers to Become High Quality Professionals – A Finnish Case*, H. Niemi presents the results of empirical research on a large number of student teachers aiming at the evaluation of competencies. They assessed how teacher education had provided them with the competencies they need in a high standard profession, what kinds of active learning experiences they had in their TE studies, and how research studies of teacher education had contributed to their professional development. The participants in the study assessed that they had achieved good skills in planning teaching and curriculum. They were capable of using different teaching methods. They were aware of their own teaching philosophy and their responsibilities as professionals and life-long learners. They consider the research component of TE valuable to their independent and critical thinking and they were very engaged in studies. The author concludes the article by suggesting basic principles of research-based teacher education.

Further on, we find three articles referring to science teaching. In their paper *Variations in Primary Teachers' Responses and Development During Three Major Science In-Service Programmes*, T. Jarvis, A. Pell and P. Hingley report on how different types of teachers responded to in-service aimed at developing investigative hands-on science in primary schools and the extent to which they applied their new skills in the classroom. Using cluster analysis enabled three teacher types to be identified: 'Science Unsures' with low attitude scores and little confidence, who showed no response to the innovation; 'Holistic improvers', who showed the largest improvement in science teaching confidence; and 'High level, positive progressives', who were very positive to science teaching throughout and showed gains in confidence in teaching

physics and chemistry as well as demonstrating the relevance of science to their pupils. Taking account of these teacher types alongside interviews and observations, nine developmental stages in how teachers apply their new expertise in the classroom and the whole school are suggested.

T. Feierabend and I. Eilks have contributed the article *Innovating Science Teaching by Participatory Action Research – Reflections from an Interdisciplinary Project of Curriculum Innovation on Teaching about Climate Change*, in which they describe a three-year curriculum innovation project on teaching about climate change. The innovation in this study focused on a socio-critical approach towards teaching climate change in different teaching domains. The teaching itself explicitly aimed at general educational objectives, i.e., fostering students' communication and evaluation abilities as essential components for preparing young people for active participation in society. Participatory Action Research has been used as a collaborative strategy of cyclic curriculum innovation and research. Core issues reflected upon include how the project contributed to the creation of feasible curriculum materials, how it led to innovative structures in practice, and whether it supported experienced teachers' ongoing professional development.

Using Technology to Engage Preservice Elementary Teachers in Learning about Scientific Inquiry, an article by L. Jones, J. MacArthur and S. Akaygun, stresses the meaning of one of the basic presumptions in teacher education: student teachers need to be trained in the way we expect them to teach their future pupils. Elementary teachers are often required to teach inquiry in their classrooms, although they have had little exposure to inquiry learning themselves. In a capstone science course, preservice elementary teachers experience scientific inquiry through the completion of group projects, activities, readings and discussion, in order to develop a sense of how inquiry learning takes place. At the same time, they learn science content necessary for teacher licensure. The course exposes students to different pathways of scientific discovery and to the use of the computer both as a tool for conducting inquiry-based investigations and as a means of collecting and sharing student opinions. The students have many misconceptions about science and it is often difficult for them to distinguish science from pseudoscience. Computer simulations are used to help students understand that difference.

Collaboration is of great importance in the process of pedagogical innovation. L. M. García has contributed the article *Encouraging Teachers' and Students' Innovation with the Support of Teacher Learning Communities*. The purpose of this paper is to share the knowledge generated through the implementation of "Teaching Innovation Teams" as a strategy for teachers' professional development and innovation at the University of Alcala. The author analyses the contributions of this strategy to facilitating curriculum innovation in higher education. She also reflects on some of the achievements and results of the activities carried out by these teams, identifying the dilemmas and difficulties teachers experienced that hinder the development of curriculum innovations. Finally, the author outlines some educational contributions of "Teaching Innovation Teams" understood as a collaborative and formative strategy to facilitate educational change.

Textbooks can have an important effect on the quality of instruction and students' individual learning. In the article *Exploring Culture in Locally Published English Textbooks for Primary Education in Turkey*, R. Ağçam and Y. Kirkgöz investigate the cultural elements in locally published English textbooks used in Turkish primary schools following two major curriculum innovations in ELT. A total of 18 textbooks, of which 8 were published after the 1997 curriculum innovation, and 10 after the curriculum innovation introduced in 2005, were investigated to find out the extent to which textbooks contain references to source (Turkish) culture, target (British/American) culture and the international target culture.

In an empirical study in which she researches postgraduate students' perceptions of (their own) creativity in research, Mojca Juriševič highlights the phenomenon of scientific creativity. She finds that on concluding their first year of study students perceive an encouraging scientific research climate, that they experience their research in a relatively creative way, and that they work primarily on the problem of "narrowing and elaborating their own research problem". On the basis of the research results, she suggests the systematic encouragement of students in the area of the application of various study strategies, and proposes the use of highly competent and scientifically creative higher education teachers for mentorship in the research work of postgraduate students.

There is one further contribution in the non-focused part of the journal. In their article, *Personal and Emotional Factors in the Labour Integration of University Graduates in the Field of Education*

- *Implications for University Teaching*, J. L. Castejón, R. Gilar and P. Miñano analyse the role of intellectual, personal and emotional competencies as well as technical knowledge - academic achievement - in the employment of university graduates, with the purpose of incorporating these competencies into training programmes developed within the European framework of higher education. They attempt to identify the key socio-emotional competencies in the field of education in order to establish the implications of including this type of skill in university training programmes within the European Higher Education Area.

In the third part, there are reviews of two monographs, *Teacher Competencies and Educational Goals* (2010). (Peklaj, C. (Ed.). Aachen: Shaker Verlag, ISBN 978-3-8322-9661-2) and *Resilience in Action* (2007) (Nan Henderson (Ed.). Paso Robles, CA: Resiliency in Action, Inc., ISBN 0-9669394—3-3).

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