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Možnosti využitia prostriedkov virtuálneho sveta vo vzdelávaní

Possibilities of utilization of the virtual environments in education

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Abstract

The paper is devoted to understanding the influence of economic competitiveness and environmental sustainability on education. It was concluded that national economic competitiveness is linked to intellectual and capital and is driven by knowledge, and innovation. Sustainable development requires an understanding of the complexity of the global ecosystem and of creative problem-solving to find solutions to ‘wicked problems’ such as that of reconciling economic activity with a sustainable environment. It was highlighted the following overarching needs to: give a higher profile to the notion of interdependence: how closely one part of an ecosystem is linked to and depends upon another; making humanity more aware of its own fragility on this planet; highlight the role of cooperation: problems faced will only be resolved by international cooperation; develop the notion of a global public good: environmental sustainability can only be achieved by trans ceding particular national or individual needs.

Key words: economic competitiveness, environmental sustainability, pedagogics approaches, knowledge-based economy, human capital, interpersonal skills.

There are two change forces affecting education today. Firstly, raising the quality of education that is driving human potential is seen as imperatives in knowledge societies that aim for sustainable economic growth and prosperity. Secondly, education is also viewed as one of the instruments for raising the level of understanding of the fragility of the global ecological situation.

Education for entrepreneurship or economic development, and education for environmental sustainability, or sustainable development are seen as conflicting goals in education reforms. Teachers today also encounter a number of other and

equally important challenges in their work, such as educating youth for insecurity, tolerance, new technologies, peace and active citizenship, to mention but a few.

In order to educate young people to play a role in both future economic competitiveness and environmental sustainability, education policies have to be based on a proper understanding of these key concepts. In any knowledge-based economy people need to be able to work with knowledge, collaborate with other people and adapt to unpredictably changing situations. National economic competitiveness is linked to intellectual and capital and is driven by knowledge, and innovation. Sustainable development requires an understanding of the complexity of the global ecosystem and of creative problem-solving to find solutions to 'wicked problems' [Murgatroyd 2010] such as that of reconciling economic activity with a sustainable environment.

Competitiveness and sustainability have become buzz words in the discourse on global prosperity and development strategies. One popular indicator used in ranking the performance of nations is their ability to compete in world markets. Position in the international rankings of national economic competitiveness has indeed become a pretext for economic and labor market reforms in many economies. National education policies aim at helping their economies to become more competitive. Competitiveness as one aspect of the twin challenge of nations is, however, not a clear concept for either policy-makers or education practitioners. Sometimes it refers to competitiveness in education which means the effectiveness and efficiency of a national education system vis-à-vis other education systems [Sahlberg 2006; West 1993]. In other cases, education for competitiveness implies a certain kind of education that will increase employability and productivity in national and world markets. This is closely linked to the 'competitiveness of education' interpretation since better education improves employment opportunities because of its positive impact on knowledge development and hence on productivity. In this paper, we look at education as one of the main drivers of human capital development and thereby of national economic competitiveness.

Again, it means better quality of, broader access to and more mobility within education. But it also means considering what type of education is needed to cultivate those qualities that are necessary in a sustainable knowledge-based society.

All democratic nations wish sustainable economic development and prosperity for the well-being of their inhabitants. According to Porter et al. [2008], prosperity is driven by the productivity of an economy which, in turn, depends on the value of goods and services produced per unit of national human capital and national resources including those derived from 'natural capital'. Both the value of a nation's products and services and the efficiency with which they are produced determine productivity. Competitiveness is measured by productivity.

Empirical research on economic growth has found social infrastructure and political institutions to be the most important factors for long-term differences in prosperity [Bils, Klenow 2000; Glaeser et al. 2004]. The New GCI as a measure includes enrolment rates in primary, secondary and tertiary education and the quality of the education system in general and of mathematics and science education in particular. These aspects of human capital fall into the province of national policies.

Competitiveness and ingenuity will also be needed to create strategies that re-stabilize global systems and stimulate peoples' will to change to a morality, mindset and lifestyle implied by the 'overarching needs' spelt out by Bottery [2008].

It is important to realize the sheer scale of the challenge of turning educational policy into practice at the key interface between millions of learners and hundreds of thousands of their formal teachers. It is also important to understand the intensification of teachers' work and raised expectations of their performance arising from the greater demands for accountability in recent years.

Only if new priorities are signaled at the political level can the necessary context be provided to move towards pedagogies that are appropriate for the decades ahead. Both pedagogy and curriculum must be seen within the overall values and goals of a given education system.

Entrepreneurship refers to an individual's ability to turn ideas into action. It includes creativity, innovation and risk taking, as well as the ability to plan and manage projects in order to achieve goals. This supports everyone in day-to-day life at home and in society, makes employees more aware of the context of their work and better able to seize opportunities, and provides a foundation for entrepreneurs establishing a social or commercial activity. Risk-taking, creativity and innovation are, as expressed in the quotation above, often seen as features of a special form of curriculum, in this case entrepreneurship education. But this discourse needs to be extended to all areas of education. Even more importantly, ingenuity and creativity should also be woven into the culture of schooling.

Formal education, especially at pre-tertiary level, has long been criticized for static conceptions of knowledge and learning [Lehtinen 2004]. Traditionally, the foundation of knowledge was based on a positivist scientific method. Therefore knowledge was viewed as objective and knowledge-formation as a linear, cumulative process free from subjective values and interpretations. Knowledge is nowadays understood differently in economics, mathematics, natural sciences, neuroscience, cognitive sciences and information technologies. It is seen as relativistic and diverse in terms of its interpretations. Furthermore, according to Capra [2002], it is created through multiple processes, including hermeneutic and subjective 'scientific' methods alongside the systems analytical advances in understanding non-linear dynamics of complex life, and human and ecological systems.

This shift in the paradigm of knowledge has created a challenge for education. Teaching and learning in schools should concentrate not only on mastering the basics and achieving predetermined learning standards but also on coming up with alternative perspectives, new ways of constructing knowledge and creating ideas that have value.

Innovation involves the extraction of economic and social value from knowledge. It puts ideas, knowledge and technology to work in a manner that brings about a significant improvement in performance. It needs not just an idea but rather an idea that has been made to work. This means that innovation and entrepreneurship are closely interdependent. Therefore, living in and working for a world of innovations requires different attitudes, knowledge and skills from the citizens. Technological adaptation and innovation have been the main drivers of economic growth in developed countries since World War II and are also proving to be important factors in many developing countries. Innovative models of wealth creation, referred to as ‘natural capitalism’, are emerging in the business world. They illustrate how environmental responsibility can be highly profitable. In order to be able to contribute successfully to the development of innovation in the sustainable knowledge economy, education systems also need policies that encourage working with and learning from innovations.

Success in the world of work and living in a world of global risks require different knowledge and skills. Coping with increasing amounts of knowledge has changed the ways we think about education and schools. Individual performance and inventions created by one person only have given way to collective intelligence, shared knowledge and team-based problem-solving. Successful economies and highly creative communities are based on the idea of strategic alliances rather than raw competition for markets and clients. Indeed, sustainable development and economic competitiveness require a stronger focus on the development of interpersonal skills and intellectual capital throughout the cycle of education. More specifically, intellectual capital that is necessary in productive group processes, whether in or out of school, is becoming more important in the schools of those countries that are genuinely concerned about their economic competitiveness and sustainable development. Competition and collaboration are central concerns in an exploration of global economic and environmental futures and related pedagogies.

Both collaboration and competition confer evolutionary advantage. In-group collaboration to give comparative advantage to one group over another is a key to economic as well as political success in market-based democratic societies. It also advantages individuals within the groups who benefit from a sense of identity and belonging. Increasingly at the local level of schooling, the creation of collaborative cultures in schools is seen as offering competitive advantage in the quasi-market that sets schools in competition for parental choice; even within

classrooms modern pedagogy based on constructivist principles of learning is increasingly characterized by collaborative student projects and problem-solving activities. Creativity in the classroom has long stressed the efficacy of such activities both for motivating learners and for promoting '21 st century skills' needed for labor and enterprise in the knowledge economy. Every school population and every classroom group are an 'in-group' and if school leaders and teachers are skilful in creating a positive culture they can provide individual pupils with the security that comes from a sense of identity and belonging.

Conclusions

During the investigation it was defined the aspects of human capital fall into the province of national policies.

It is highlighted the following overarching needs to:

- give a higher profile to the notion of interdependence: how closely one part of an ecosystem is linked to and depends upon another; making humanity more aware of its own fragility on this planet;
- highlight the role of cooperation: problems faced will only be resolved by international cooperation;
- develop the notion of a global public good: environmental sustainability can only be achieved by trans ceding particular national or individual needs.

It is defined three main factors of economy competitiveness rising: new conception of knowledge; innovation; intellectual capital.

Understanding importance of facts above will help pedagogues to change their approaches according to modern economy needs and challenge.

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