



Lambrakis Foundation

EXECUTIVE SUMMARY

EDUCATION AND INNOVATION IN THE 21ST CENTURY OPENING FRONTIERS TO THE BUSINESS MARKET

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The Economist, Microsoft Hellas and the British Council organized a conference on innovation and education on February 28 2013 in the Athens Megaron. Experts from Greece and from abroad contributed with their presentations and remarks to a fruitful debate.

Today, education and training need to prepare people for more rapid change than ever before, for jobs that have not yet been created, using technologies that have not yet been invented, to solve problems, that we don't yet know will arise. The combination of economic globalization and technological revolution has made the job market extremely competitive. **The number of university graduates has risen dramatically over the last decade, thus giving degree holders an advantage.** The McKinsey Global Institute estimates that by 2020 the world will have a surplus of 95 million low-skill workers and a shortage of highly qualified personnel. Demand for part-time and freelance employees is exploding. The "labor as a service" approach is expanding and so are the online marketplaces, which tend to outsource to the level of the individual employee. Mobility is rising, making labor migration an important source of skills for many countries.

Yet, we are faced with the toxic combination of unemployment and skills deficit. People with poor skills face a much greater risk of experiencing economic disadvantage and a higher likelihood of unemployment and dependency on social benefits. The highly skilled, on the contrary, tend to earn more and have better career perspectives. Even at the height of the crisis in 2009, up to 40% of employers in very diverse countries reported difficulties in finding workers with the appropriate skills and believed that this would have a negative effect on their company's growth. Two thirds of business leaders, surveyed, say that

entrepreneurial competencies are the most lacking in their young employees. **50% of today's jobs require ICT skills; this percentage is estimated to rise at 80% within the next 10 years. There is a clear mismatch between the education outcomes and the needs of the labor market.** In order to achieve the desired match, education needs to work together with government and business and make use of the latest available ICT tools.

While the learning ecosystem is changing dramatically, **learning approaches remain traditional. It is necessary to renew the learning model.** Traditional disciplines are not threatened by these changes, as they continue to provide the basis for development of the 21st century skills. Cooperation lies at the center of the change in education, which should be oriented towards student-centered pedagogies, extension of learning beyond the classroom and creative inclusion of ICT.

Students are super digital in their everyday lives and are forced to switch to “flight mode” once they enter school. **The focus should be on the creative use of ICT, rather than on the introduction of ICT in education. When teachers are supported to use ICT in education, the learning outcomes improve. The present of ICT in the classroom involves computers, the internet and interactive technologies, whereas the future is 3Dimensional.**

Cooperation and entrepreneurship dominate the debate on 21st century skills. Entrepreneurship education leads to more start-ups, which are more sustainable. Moreover, those who participate in entrepreneurship programs are a) more successful in their jobs, if they choose to work as employees, b) adopt a lifelong learning perspective and are more flexible and ready to make career choices, c) are more satisfied with their career and d) earn more long-term. Moreover, schools need to empower students to a) build knowledge through an interdisciplinary perspective, b) use ICT for learning, c) self-regulate their learning, d) engage in skilled communication, e) engage in real world problem solving and innovation activities. The global educational reform movement tends to focus on the axis: competition – standardization – fixed results – accountability. **The Finnish model** opposes to that model: **cooperation – personalization – flexibility – trust.** In the first case the outcomes are measurable performance, whereas in the latter they are expected skills and innovation.

Universities play a focal role in coupling education and innovation and thus, need to be flexible, extrovert, pluralistic and intercultural. Universities need to nurture creativity and innovation by securing the conditions for generating and delivering innovative

entrepreneurial ideas. Such conditions include participation in competitions and establishment of excellence awards.

In the innovation chain state funding decreases as research approaches the concept of the product. The Greek environment is unfriendly to the implementation of entrepreneurial ideas. Science parks, which are linked to universities are the perfect habitat for businesses and institutions of the global knowledge economy, as they promote economic development and competitiveness of regions and cities. They provide facilities and equipment, counseling and mentoring, education, participation in innovative projects, access to industries and to venture capitals, networking and partnership building. Universities work together with partners from the business world, who in the framework of their corporate and social responsibility provide expertise, mentoring and funding for the operation of the park. An alternative to science parks is the creation of **Centers of Technology and Innovation**, where world-class researchers in partnership with industry, government agencies and other organisations enhance the student experience and provide more opportunities for students (from the undergraduate to the postgraduate level) to interact with external agencies and to work in shared and flexible laboratory facilities on projects in innovative fields like bionanotechnology, energy, advanced engineering and manufacturing etc. Furthermore, it is important to enhance **entrepreneurship at intersectoral level** within the university and to create regional, national or international **networks which link higher education to the labor market**. The European Institute of Innovation and Technology (eit) has designated three active **KICs (Knowledge & Innovation Communities)**, with 66 participating universities, 53 research centers, 76 businesses and 11 local and regional partners from different EU member states. At present time Greece does not participate in the knowledge triangles, that have been formed in central and northern Europe, but some of the Greek universities and research centers are about to enter the KICs.

The performance of Greece in ICT and energy projects lies above the EU average. This is, however, not the case for structural and national funds, which lag behind. A fundamental element of research and innovation is **“smart specialization”**, which means identifying the unique characteristics and assets of each country and region, highlighting each region’s competitive advantages, and rallying regional stakeholders and resources around an excellence-driven vision of their future. **The creation of tradable businesses will lead Greece to the growth path.** Greece has an abundance of graduates and skilled workers. However, it lacks businesses, work experience in advanced environments, collaboration skills and risk

takers. In order to fund innovative start-ups Greece has set up, with the support of the European Investment Fund, four venture capital funds which aim at investing in 50-100 new companies in the following three years.

The Greek educational system needs to become competitive, to enable progress, growth and innovation. **The answer to the question weather Europe has the capacity to lead technological innovation maybe typical European: some countries will make it and some will not.** In that case, the question which arises is «what does it mean for Europe to have two speeds in innovation?».