



**OECD/Germany workshop**  
**on**  
**Advancing innovation: human resources, education and training**  
**17-18 November 2008**  
**Seminaris Hotel**  
**Bad Honnef/Bonn, Germany**

### **Background**

The OECD Innovation Strategy was launched by Ministers at their May 2007 Ministerial Council Meeting. There a mandate was given to address countries' needs for a more comprehensive, coherent, and timely understanding of how to promote, measure and assess innovation and its underlying dynamics of change. In response, the OECD is developing a horizontal and multidisciplinary strategy for addressing the needs of countries for advice on harnessing the potential of innovation as a driver of growth and productivity, equity and development. One of the horizontal working groups of the Innovation Strategy is focussing on *the role of human capital*.

Human resources have long been a priority subject for governments because of their significance for economic and social development. While human resources remain essential for knowledge-based economies, the skills and competencies required for innovation are broad and may be changing since innovation outputs and processes are characterised by diversity and heterogeneity. While the innovation process was traditionally viewed as relying on researchers inventing new products, this is only one part of the picture. Incremental innovation and the improvement of organisational efficiency and routines, for example, can come from a range of workers, not just managers, researchers' or external consultants, and rely on different skills and competencies. Some innovations clearly come from practitioners operating within communities of practice. Increasingly, innovation is also consumer-driven, and an open question is whether the growing importance of this trend is linked to the emergence of a more educated (and thus demanding) consumer population. Moreover, non-technological innovation (for example, new organisational methods, or marketing innovations) requires specialist skill-sets well beyond traditional science and engineering training. Innovation also involves the capacity to change or to retrain following the introduction of radically new products and processes.

Linked to this is understanding how innovative practices can be introduced, adopted and mainstreamed within education and training systems in order to improve their learning, equity and efficiency outcomes, but also to foster the innovation skills required in the future.

### **Objectives**

This two-day workshop aims to:

- Learn how the issue of human capital is incorporated in national innovation strategies;
- Identify the broad range of skills and capabilities required for innovation; and
- Better understand how education and training systems can become more innovative.

## Annotated Agenda

Sunday 16 November Welcome Buffet at Seminaris Hotel (19.30)
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<b>Monday 17 November</b>	
9.00	Registration
9.30	<p><b>Welcome &amp; Session 1: Human resources and innovation: broadening the policy model</b></p> <p>Innovation has become increasingly important in a more globalised world. All countries are increasingly under pressure to develop their innovative potential for their economic growth, their social development and to address global challenges related to energy, water or health. Innovation comes in many shapes and forms, from many sources and thus imposes many different requirements on countries' human capital or resources. What types of skills and capabilities are required for innovation (including technological and non-technological, incremental and radical, open innovation, innovation in services)? Is there a mismatch between the supply of skills and those demanded by enterprises? Are education and training systems well equipped to transmit these skills? What are the right framework conditions for innovation to thrive? Moreover, innovation rarely occurs in isolation, it increasingly happens within networks and it is often within these networks that human capital is the most effectively developed. With the rise of the internet and new technologies, these networks take new forms that often accelerate the pace of innovation.</p> <p>This session will provide a brief overview of the different facets of the human capital dimension of the OECD Innovation Strategy. It will be followed by a key note presentation.</p> <p><b>Chair:</b> Klaus Luther, Federal Ministry of Education and Research (BMBF), Germany</p> <ul style="list-style-type: none"> <li>• Klaus Luther, BMBF</li> <li>• Dr. Dirk Pilat, OECD Directorate for Science, Technology and Industry</li> <li>• Dr. Dirk van Damme, OECD Directorate for Education</li> </ul>
10.00	<p><b>Session 2: Keynote speeches</b></p> <p><b>Chair:</b> Klaus Luther, BMBF</p> <ul style="list-style-type: none"> <li>• Prof. Luc Soete, Maastricht University, the Netherlands</li> <li>• Dr. Shahid Yusuf, World Bank: Innovation and human resources: the experience of middle income East Asian countries</li> </ul>
11.00	Break

11.30	<p><b>Session 3: International experiences: case studies of national strategies</b></p> <p>Human resource development is an area of continuous policy focus and action. While many OECD countries have implemented a variety of policies to improve the development of human resources these are not necessarily linked to broader innovation goals. Conversely, innovation strategies generally cover human resources issues mainly through educational attainment and the formation and management of scientists and engineers.</p> <p>This session will focus on examining how human capital is included in recent national innovation strategies that encompass all or most government ministries. This will allow the participants to reflect on the differences in approaches, and later on to reflect on what important missing aspects the OECD innovation strategy could address.</p> <p>Some countries will present their experience before a general discussion. Background note 1 contains further country information and examples.</p> <p><b>Chair:</b> Klaus Luther, BMBF</p> <ul style="list-style-type: none"> <li>• Katharine Campbell, Australian Embassy and Mission to the European Commission</li> <li>• Hernán Araneda, Fundacion Chile, Chile</li> <li>• Dr. Mi-Jung Um, Director, Human Resources Policy Research Group STEPI, Korea</li> </ul> <p>Questions for discussion include:</p> <ul style="list-style-type: none"> <li>• What are the main dimensions of the human capital discussion in countries' innovation strategies and how do they differ across countries?</li> <li>• What spurred the inclusion of human capital issues and what analysis lay behind the policy approaches chosen?</li> <li>• In what ways are education and training policies related to this broad agenda?</li> <li>• Where could new analysis from the OECD add the most value for countries seeking to include human capital in their innovation strategies?</li> </ul>
13.30	Lunch

14.30	<p><b>Session 4: Skills and competences for innovation</b></p> <p>This session aims at identifying the skills, competences and training mechanisms that are better adapted to the changing innovation landscape, and new ways of analysing skills and competences for innovation. Innovation occurs in a variety of settings ranging from low-technology to science-based firms, from the SME to the large multinational firm, from the prestigious university to the technical college. It can involve independent innovators (or entrepreneurs) or teams of people working within and across organisational boundaries as well as international mobility. While formal education is a key factor in forming human capital informal modes of learning, including on-the-job training, is also important. The attitude to risk and innovation is to some extent shaped by the broader social environment, including social and employment policies. A good education and training system that allows people to update their skills and to retrain following the introduction of innovations or broader societal change should also be part of an innovation-friendly environment.</p> <p><i>Chair:</i> Dr. Renate Fischer, Austria, chair of RIHR Working Party</p> <ul style="list-style-type: none"> <li>• Prof. Bruce Tether, Imperial College, UK: Innovation and skills</li> <li>• Prof. Gerhard Bosch, University of Duisburg Essen, Germany: Skills and competencies for innovation</li> <li>• Dr. Christoph Averdung, CPA Systems GmbH, Germany: Education, creativity and individuality – optimal preconditions for innovative products</li> </ul> <p>Questions for discussion include:</p> <ul style="list-style-type: none"> <li>• What are the critical skills for innovation? How are these changing?</li> <li>• What types of business and social organisations are the most effective in developing and using them?</li> <li>• What do we know about the balance between the different types of skills that are needed, and between formal education and upskilling/training/lifelong-learning, in the new innovation landscape?</li> <li>• How can industry and educators work together to ensure skills adapt to the changing innovation landscape?</li> </ul>
16.00	Break

16.30	<p><b>Session 5: Wrap up of first day: Where do we go from here?</b></p> <p>What are the implications for formal and informal education and training systems? How can they foster the skills for innovation that are needed? How can they contribute to an innovation-friendly culture? What are the human resource dimensions that a whole-of-government Innovation Strategy should include?</p> <p>What are the implications for the OECD work on human capital for the Innovation Strategy?</p> <p>The general discussion will be opened after brief initial comments from Roland Schneider (Trade Union Advisory Committee to the OECD) and Helen Diedrich-Fuhs (Business and Industry Advisory Committee to the OECD).</p> <p><i>Chair:</i> Sarah Box, OECD</p>
18.00	Adjourn
19:00	Departure for conference dinner

**Tuesday 18 November**

9.00

**Session 6: Positioning innovation in education within national innovation strategies**

If individuals are to be equipped with the capacity both to innovate and to adapt to innovation, it is important to better understand how education systems can become more innovative themselves in order to quickly and better respond to new knowledge and social demands, including innovation skills. Innovation in education is an essential means to improve the outcomes of education systems in terms of learning, equity and cost-effectiveness. Finally, innovation in education might be the prime example that will make people cherish an innovative spirit and motivate them to learn.

This session will outline how “innovation” can be defined in education and discuss in what ways, if any, innovation in education relates (or should relate) to whole-of-government innovation strategies.

**Chair:** Dr. Ruppert Deppe, Germany

- Dr. Stéphan Vincent-Lancrin, OECD

Questions for discussion include:

- What are the rationales/arguments for covering “innovation in education” in a national innovation strategy?

9.30	<p><b>Session 7: Innovation in education and training: country cases of strategies and initiatives</b></p> <p>This session will investigate what strategies countries have recently put in place to foster innovation in their education and training systems, and what are the main mechanisms they emphasise in that respect. Are there explicit “innovation strategies” in education and training? Can we infer from practices implicit “innovation strategies”? What kind of policy to innovation do countries/public authorities have? In the case of Europe, how is the European Union facilitating and/or constraining innovation in education?</p> <p>Country strategies and examples are depicted in background notes 2 and 3.</p> <p><i>Chair:</i> Dr. Ruppert Deppe, Germany</p> <ul style="list-style-type: none"> <li>• David Jasmin, National Institute of Pedagogical Research, France: Reflections on an innovative pedagogy in science, « la main à la pâte »</li> <li>• Prof. Gábor Halász, ELTE University Budapest, Hungary: Some policy instruments to promote educational innovation in Hungary</li> <li>• Anneke Boot, Ministry of Education, Culture, and Science, the Netherlands: Innovation in education in the Netherlands</li> </ul> <p>Questions for discussion include:</p> <ul style="list-style-type: none"> <li>• What are the main policy instruments of implicit or explicit strategies?</li> <li>• What is missing in these strategies? What are the main difficulties in the design and implementation of these strategies?</li> <li>• What is the attitude of policy-makers or actors towards risk and failure?</li> <li>• What are the roles of international organizations and networks in these strategies?</li> </ul>
11:00	<b>Break</b>

11.30	<p><b>Session 8: Innovation in education: the driving forces</b></p> <p>Following country cases, some presentations will point to several factors that are at the heart of innovation in education: educational research, knowledge management within establishments and systems, freedom to innovate, teacher training, sustainable funding, evaluation processes, social capital, attitude to risk, intellectual property right regime, collaboration with a wide range of stakeholders, competition, etc. Possible obstacles that hinder innovation and possible solutions will also be highlighted.</p> <p>This will build on recent work carried out by the OECD Centre for Educational Research and Innovation, as well as some other expertise in this area It will be followed by a general discussion.</p> <p><b>Chair:</b> Dr. Ruppert Deppe, Germany</p> <ul style="list-style-type: none"> <li>• Dr. Tracey Burns and David Istance, OECD: Systemic innovation in VET and innovative learning environments: a few general lessons</li> <li>• Prof. Klaus Klemm, University of Duisburg Essen, Germany: The role of educational research in educational innovation</li> <li>• Prof. Christopher Lubienski, Illinois University, United States: Quasi-markets and innovation in education</li> </ul> <p>Questions for discussion include:</p> <ul style="list-style-type: none"> <li>• How can one evaluate the success of an innovation?</li> <li>• Are there different types of innovations in education: some that should be mainstreamed, other that should not?</li> <li>• What are the key factors facilitating and hindering innovation?</li> <li>• Are there alternative ways to promote innovation in education depending on the main characteristics of the systems? What are they?</li> <li>• What is (or should be) common to all efforts to promote innovation in education?</li> </ul>
13.00	<b>Lunch</b>

14.00	<p><b>Session 9: Innovation in education: wrap up and policy issues</b></p> <p>What are the areas that need further investigation? What are the implications for policy making in education and beyond? In what ways are the issues similar and different from the overall work on human capital for the Innovation Strategy? What kind of “Innovation strategy for education and training” would be the most useful to member countries?</p> <p>This session will draw on the discussions of the previous sessions to identify what aspects from general innovation strategies should be emphasised or studied as a driver of innovation in education, and what is most relevant to policy-making.</p> <p><i>Chair:</i> Dr. Stéphan Vincent-Lancrin, OECD</p>
15.00	<p><b>Session 10: Final discussion and next steps</b></p> <p>This session will consolidate and synthesise the results of the previous presentations and discussions and lead to guidance for next steps.</p> <p><i>Chair:</i> Dr. Stéphan Vincent-Lancrin, OECD</p> <p>Discussion and close</p>
16:00	<p><b>Conclude</b></p>

**Working languages:** English, French, German (with simultaneous interpretation)

**For further information on the objectives of the meeting, please contact:**

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**Workshop Webpage:** [www.oecd.org/edu/innovation/bonnseminar](http://www.oecd.org/edu/innovation/bonnseminar)

**Background documents:**

- Background note n°1: skills for innovation – country strategies
- Background note n°2: innovation in education – country strategies
- Background note n°3: innovation in education – country examples
- Innovation strategy scoping document
- Innovation strategy in education and training
- Policy brief: innovation and growth