

# **Definition and Selection of Competencies: Theoretical and Conceptual Foundations (DeSeCo)**

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The OECD Program *Definition and Selection of Competencies: Theoretical and Conceptual Foundations* (DeSeCo) was initiated at the end of 1997 and managed by the Swiss Federal Statistical Office with major support from the United States Department of Education, National Center for Education Statistics.

DeSeCo is part of OECD's effort within the framework of INES to continue work in the area of competencies and skills of the youth and adult population and to develop over time a coherent strategy for defining, selecting and measuring competencies and skills.

## Context

The complexity of the demands generated by an increasingly interdependent, changing and conflictual world places the objectives of education and the strategies to achieve education goals in center stage of the debate on broad educational reform. In line with a growing concern about the adequacy and quality of education and training and the actual return on public educational expenditure, there has been since the mid-1980s an increased policy interest in comparable outcome indicators in the education field. In fact, measuring the quality of education outcomes, estimating economic and social returns to learning, and identifying key determinants to educational success is an ongoing discussion topic that stimulates keen interest around the world.

This interest in new information raises important questions about what is most needed. Beyond basic skills such as reading, writing, and calculating, what competencies are needed for the individual to lead an overall successful and responsible life and for contemporary society to face present and future challenges? What are the normative, theoretical, and conceptual foundations for defining and selecting a limited set of the most relevant competencies? These questions are the basis for an international and interdisciplinary endeavor conducted under the auspices of the Organisation for Economic Co-operation and Development (OECD) and led by the Swiss Federal Statistical Office (SFSO). This project entitled *Definition and Selection of Competencies: Theoretical and Conceptual Foundations* (DeSeCo) has been set up to develop research in the area of competencies.

## Objectives

DeSeCo seeks in collaboration with ongoing OECD assessment programs, to analyze the theoretical foundation, the rationale of the definition and selection process of key competencies and their relationship to the social and economic environment. Further it aims to provide guidelines for future developmental work for the assessment of broad human competencies in an international context. The elaboration of assessment instruments is beyond the scope of this study.

The main objectives of DeSeCo are:

- **To develop normative, theoretical, and conceptual foundations for defining and selecting key competencies.** The program seeks through an interdisciplinary scientific approach, within an international context, to develop a common, overarching theoretical framework for the identification of the competencies needed for individuals to lead an overall successful and responsible life and for society to face the challenges of the present and the future. The construction of future measures in the form of relevant indicators should be based on a refined and solid, theory-based foundation.
- **To develop reference points for the development and understanding of future indicators of competencies and for the validation of education indicators, and to provide a basis for more accurate and appropriate interpretation of empirical results.** The work of the program will provide a resource for the process of defining and selecting key competencies, as well as for the development and understanding of future measures aimed at producing relevant indicators of skills and competencies. For this it is crucial to support an iterative process between conceptual and empirical work through close linkages with INES-related activities in the domain of competencies.
- **To respond, in the long term, to information needs of policymakers.** The DeSeCo Program is embedded in the long-term strategy of INES to develop a broad basis for international comparisons of education outcomes and to develop relevant and theoretically based criteria for the successful evaluation of education systems and learning outcomes more generally.

## Basic Considerations

Important considerations underlying the DeSeCo Program are: a broad scope defining key competencies as encompassing participation not only in the labor market but also in the different arenas of contemporary democratic societies; the assumption that it is possible to identify a limited number of extremely relevant competencies that go beyond the subject-bound curriculum offered by schools; the existence of different conceptual and disciplinary approaches to the definition of competencies; and the need to negotiate and balance priorities linked to the selection of key competencies (which will be applied in the work place, in social relations, in democratic processes, etc.) among policy makers.

The underlying assumption of the DeSeCo Program is that defining and selecting key competencies relevant for individuals and societies is at the same time an ethical, a scientific, and a political issue.

First, no frame of reference is neutral. One's underlying vision of the world, including assumptions about society and individuals and about what a successful life implies affects the identification of key competencies.

Second, the theoretical approaches and the analytical tools used affect the way in which the topic is understood and how the problem is approached.

Third, individual characteristics such as gender, age, and social status, and aspects of the social environment such as culture and national context influence the forms that key competencies described at the abstract level take in specific contexts.

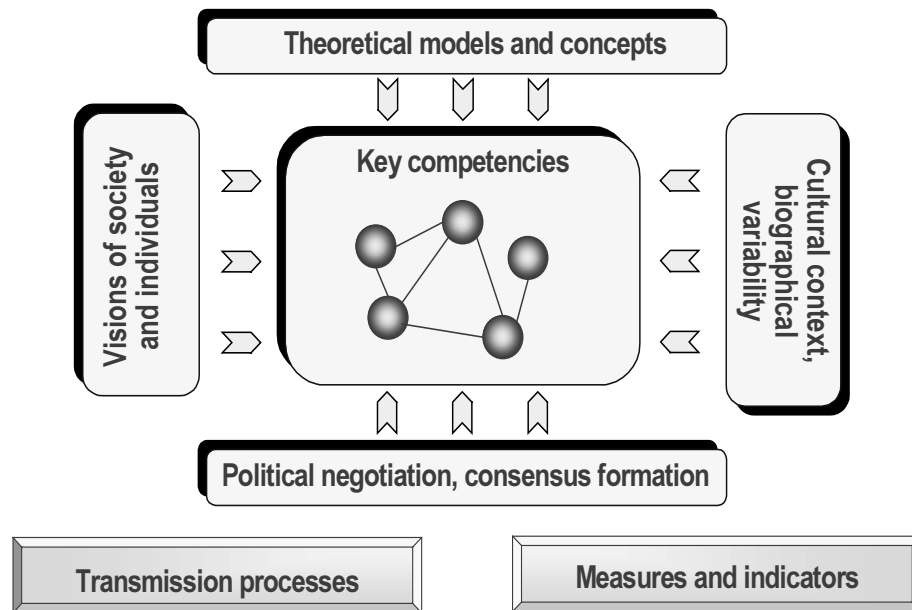
Finally, the interdependence of scientific findings and the requirements of policymakers and those involved in educational practice constitute an important aspect of the debate.

Each of these elements has an impact on how key competencies are constructed, developed, transmitted and assessed in major sectors or social fields. This point is illustrated graphically by the figure below

Therefore, defining and selecting a valuable, useful and legitimate set of key competencies are ultimately the result of a political process, in which researchers are partners among other constituents and stakeholders such as policy makers, practitioners, and representatives of the economic and social world.



### Overview of the topic



## DeSeCo's research questions

The problems and issues that the DeSeCo Program addresses are described through the following set of research questions:

- Is the basic premise of a limited number of key competencies justified? Can a set of competencies of prime importance for a successful life and effective participation in different fields of life - including economic, political, social, and family domains, public and private interpersonal relations, personal development - be identified? If so, what is the nature of these competencies and what distinguishes them as key competencies? How can they be described and theoretically justified? What are the components of these competencies?
- What do the perspectives of an economist, a sociologist, a philosopher, an anthropologist, a psychologist or an expert in educational research contribute to the identification of a set of key competencies? What is the resultant set or constellation of key competencies?
- According to experts in various spheres of activity, which competencies are necessary for understanding and acting in different areas of life?
- Do key competencies operate independently, or should they be viewed as an interdependent set or constellation of competencies, that proves to be more or less favorable depending on the context?
- To what extent is it possible to identify key competencies independently of age, gender, status, professional activity, etc? Are certain competencies particularly important in the various phases of life, and if so, which ones? Do we need the same key competencies when we are young, join the workforce, establish a family, advance in our professional or political career and when we retire?
- What is the role of policy and practice in defining, selecting, and describing "key competencies?" How are key competencies defined by policymakers in different national contexts? What are the parameters and characteristics of the negotiation processes? What is the role of scientific methodology in these processes?
- What are the convergences between the different processes and between the different sets of competencies defined as key competencies? Can we infer that there is a significant homogeneity in the different environments, or must we take into account the enormous heterogeneity due to the different scientific methodologies and the different selection processes that exist in different social-cultural contexts?
- What are the consequences of these results for the transmission of competencies and for the development and interpretation of indicators?

## Main activities

### *Study of previous OECD projects*

The first DeSeCo activity was a study of projects related to indicators of competencies conducted during the 1990s in OECD countries. It provides a broad overview of the projects, focusing on the theoretical and conceptual considerations that influenced their development as well as empirical issues raised by the work. The study was based on publications from the OECD projects and interviews with key players (see Salganik, L. H., Rychen, D. S., Moser, U., & Konstant, J. (1999). *Projects on competencies in the OECD context: Analysis of theoretical and conceptual foundations*. Neuchâtel: Swiss Federal Statistical Office).

### *Clarification of concept of competence*

A second expert paper explored the different theoretical approaches to the concept of competence, and related terms such as metacompetence and key competencies. The paper concluded that there is no single concept, and recommended a pragmatic approach in which, competencies should be conceptualized as the necessary prerequisites for meeting complex demands (see Weinert, Franz E., *Concept of Competence: A Conceptual Clarification in Definition and Selection of Key Competencies*, Dominique S. Rychen and Laura H. Salganik (eds.) (2000), Hogrefe & Huber Publishers: Germany).

### *Expert opinions from multiple disciplines*

DeSeCo has pursued the identification and definition of theoretically based sets of relevant competencies from a number of disciplinary perspectives: anthropology, psychology, economics, sociology and philosophy. Experts from each of these disciplines prepared papers in response to DeSeCo's objective to develop a framework, grounded in theory, regarding the definition and selection of competencies across social fields (see *Definition and Selection of Key Competencies*, Dominique S. Rychen and Laura H. Salganik (eds.) (2000), Gottingen, Germany: Hogrefe & Huber Publishers).

### *The 1<sup>st</sup> International DeSeCo Symposium I*

In the fall of 1999, a symposium was organized in Neuchâtel (Switzerland), for about 60 participants. The symposium brought together the authors of scholarly papers representing the different disciplinary perspectives, other scholars, and representatives of leading social and economic institutions, including unions and business organizations, to discuss the issues raised by the work conducted in DeSeCo.

### *Interim synthesis*

Following the symposium, the conceptual work continued through the development of an interim synthesis paper laying out DeSeCo's thoughts on a number of theoretical and conceptual issues and delineating common features among the proposed approaches to defining and selecting competencies. The paper was included in the compendium for the 4<sup>th</sup> General Assembly of the OECD Indicators of National Education Systems (INES) Program held on September 11–13, 2000.

### *DeSeCo publication*

Papers prepared in conjunction with the October 1999 DeSeCo Symposium were compiled into a book, *Defining and Selecting Competencies*, published by Hogrefe & Huber Publishers and released in August 2001. The introduction describes the rationale and main features of DeSeCo, as well as the challenges and issues at stake when defining and selecting key competencies. It is followed by perspectives on competencies from different academic disciplines and from various areas of policy and practice. Looking back at the reflections presented in the book, the concluding remarks highlight a number of topics that are important to address as the work continues. Information is available at the web site of Hogrefe & Huber Publishers – [www.hhpub.com](http://www.hhpub.com).

### *Country Contribution Process*

In December 2000, all OECD member countries were invited to participate in a consultation process which was approved by the Education Committee and CERI Governing Board.

The purpose of the Country Contribution Process (CCP) was primarily to review national experiences in the definition and selection of key competencies, especially for developing indicators of educational outcomes relevant to society and the economy, and to ask for feedback from a national perspective about DeSeCo's interim findings.

Twelve countries (Austria, Belgium, Denmark, Finland, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, and the US) prepared reports based on their national experiences with issues related to competencies. The content of the reports was synthesized and will be presented in February 2002 at the 2<sup>nd</sup> International Symposium.

### *Exploration of activities in international organizations beyond the OECD*

Recognizing that issues address by DeSeCo are of interest outside of OECD countries, DeSeCo conducted semi-structured interviews to explore the initiatives, programs and projects related to competencies in international organizations other than the OECD (e.g., the World Bank, the United Nations, the European Union). Relevant topics include how social and cultural diversity and negotiation and consensus building processes affect the definition and selection key competencies. The material will serve as the basis for a panel discussion at the 2<sup>nd</sup> International Symposium.

## **Additional Expert Opinions**

### *A perspective from education science perspective*

This paper was designed to examine the current and / or ideal role of societal institutions in promoting and fostering key competencies within the population, and in the transmission process of competencies through a variety of agents. DeSeCo was interested in the examination - from the perspective from education and human development - of the various disciplinary contributions previously developed by DeSeCo.

### *Competencies for participation in civil society*

This paper was commissioned to review current issues in civic and political life in contemporary democratic societies and to provide a description of competencies that are needed to participate actively and fully in civic and political life. DeSeCo was particularly interested in the conceptual underpinnings of competencies, the issues surrounding their assessment, and their relationship to the initial work of DeSeCo.

### *Strategy paper: towards broadening the coverage of human competencies*

This paper was intended to, upon reflection on DeSeCo's current work with regard to the overarching research questions, analyze the topic of which methodologies are most appropriate for development work leading to key competency indicators. It was intended to introduce some of the issues surrounding what might be the next steps towards establishing a conceptual framework for key competencies that is rooted both in scientific theory and interpretable in policy terms.

### *The 2<sup>nd</sup> International DeSeCo Symposium and final report*

A second International DeSeCo Symposium (approximately 150 to 200 persons) is scheduled for February 11—13, 2002. The symposium will take place in Geneva, Switzerland.

The focus of the second symposium will be:

- Key competencies in OECD countries – similarities and differences
- Key competencies and their relevance for human, social and economic development beyond OECD
- Critical competencies in and across social fields
- Towards a framework for defining and selecting key competencies
- Lifelong learning – development of key competencies
- Key competencies – moving towards indicators and assessments

One of the purposes of the Symposium will be to produce input for a final report from the DeSeCo project setting out whatever consensus and differences of viewpoints emerge, and recommending further action regarding the definition, selection, and assessment of key competencies. In addition, the conclusions from the Symposium will be presented to the Education Committee and CERI Governing Board at their meetings in October 2002. At that point, OECD will seek to engage Member countries in establishing a broad consensus on those competencies, which are particularly relevant for the evaluation of learning outcomes at the international level and to start mapping out a strategy for the assessment of competencies needed by adults for an active and full participation in all relevant fields of life.

## **Organization**

### **Steering Group**

The Steering Group consists of the sponsors of the DeSeCo Project: Switzerland (SFSO represented by Heinz Gilomen), the US (NCES represented by Eugene Owen), the OECD (the



Secretariat represented by Barry McGaw and Andreas Schleicher, and Canada beginning in 2000 (Statistics Canada represented by Scott Murray).

The Steering Group monitors and evaluates the project, proposes strategies for the implementation of the activities and, eventually, the dissemination of the results.

## Chair

Heinz Gilomen, Director of Education and Society, Swiss Federal Statistical Office takes the chair of DeSeCo, and assumes the overall responsibility for DeSeCo.

## Scientific Secretariat DeSeCo

Dominique Simone Rychen, Swiss Federal Statistical Office, is the project manager and ensures the management and realization of DeSeCo as well as the implementation of the Steering Group's recommendations - with support of the United States through Laura Salganik, Education Statistics Services Institute, American Institutes for Research.

Further the DeSeCo Secretariat ensures a close collaboration, on an international level, with groups working in the domain of competencies and the connection to the scientific community.

## Ad hoc Expert Consultation

The DeSeCo Project was accompanied by an advisory group composed of experts in the field of competencies and various administrators, and sponsors. After the symposium in October 1999 this group was dissolved. A clear separation between the steering group on the one hand and the expert consultants on the other was favored. Experts are consulted depending on the issue at stake. After the first international symposium, two ad hoc meetings were held with subgroups of authors of scholarly papers to provide input for the interim synthesis.

Further the draft of the compendium chapter to the 4th INES General Assembly was submitted for comment to all symposium participants in 2000.

Experts are consulted for scientific support, in particular for the evaluation of and feedback for contributions, for guidance for the terms of reference and other materials prepared for the project activities including the nomination of experts.

## Schedule of work

### 1997

Dec 11-12 Meeting of the Advisory Group

### 1998

Feb to June Analysis of previous OECD projects: Interviews with OECD key players and analysis of INES documentation

June 25-26 Meeting of the Advisory Group

Aug to Sept Analysis of the concept of competence

Oct to Jan 99 Expert opinions in various academic disciplines

Nov 16-17 Meeting of the Advisory Group

Nov-Dec Planning of first symposium

### 1999

Jan-Oct Continuation of planning of first symposium

Feb to Mar Exchange of papers for commenting by authors of expert opinions

June 10-11 Meeting of the Advisory Group

May to Aug Commenting on expert opinions by representatives from policy and practice.

Oct 13-15 First International Symposium in Neuchâtel, Switzerland

Dec 7 Ad hoc expert meeting in Paris

### 2000

Jan – July Preparation of interim synthesis

February 9 Ad hoc expert meeting in Boston

March to Dec Preparation of the publication, *Defining and Selecting Key Competencies*

June to Dec Preparation for the Country Contribution Process (CCP) and planning for additional expert papers

August 21 Steering Group Meeting

Sept 11-13 Interim synthesis presented at INES General Assembly

## 2001

Jan to June	CCP workshops and country reports
Jan to June	Continuation of preparation of <i>Defining and Selecting Key Competencies</i>
April to Dec	Development of additional expert papers
Jan to Dec	Planning of Second Symposium
May 8	Meeting of Steering Group
August	Release of <i>Defining and Selecting Key Competencies</i>
Oct 31–Nov 1	Meeting of Steering Group

## 2002

February 11-13	Second Symposium, Geneva
July	Publication of contributions to the 2 <sup>nd</sup> International Symposium
March-June	Preparation of the DeSeCo Final Report  Summary of main conclusions of the DeSeCo work and recommendations to the Education Committee and the CERI Governing Board
October	CERI Governing Board Meeting on future INES activities
October	Release of Final Report publication

## Contact Address

Any questions or comments on DeSeCo can be addressed to:

Dominique Simone Rychen  
DeSeCo Secretariat  
Program Manager  
Swiss Federal Statistical Office  
Espace de l'Europe 10  
CH-2010 Neuchâtel, Switzerland  
E-mail: [Dominique.Rychen@bfs.admin.ch](mailto:Dominique.Rychen@bfs.admin.ch)

All relevant documents are downloadable at [www.deseco.admin.ch](http://www.deseco.admin.ch)

## ANNEX A: DeSeCo Publications

- Laura H. Salganik, Dominique S. Rychen et al. (1999), *Projects on Competencies in the OECD Context: Analysis of Theoretical and Conceptual Foundations*, SFSO, OECD, ESSI, Neuchâtel.
- Various Authors (1999), *Comments on the DeSeCo Expert Opinions*. Swiss Federal Statistical Office. Neuchâtel
- Dominique S. Rychen and Laura H. Salganik (2000), *Definition and Selection of Key Competencies*, in Fourth General Assembly of the OECD Education Indicators Programme, The INES Compendium, Contributions from the INES Networks and Working Groups, p. 61-73. OECD. Paris.
- Dominique S. Rychen and Laura H. Salganik (eds.) (2001), *Defining and Selecting Key Competencies*. Gottingen, Germany: Hogrefe & Huber Publishers

Authors include John Carson, Franz E. Weinert, Monique Canto-Sperber & Jean-Pierre Dupuy, Helen Haste, Philippe Perrenoud, Frank Levy & Richard J. Murnane, Jack Goody, Robert Kegan, and Cecilia Ridgeway, Jacques Delors, Alexandra Draxler, Bob Harris, Carlo Callieri, Jean-Patrick Farrugia, Laurell Ritchie, and Uri Peter Trier

See <http://www.hhpub.com/catalogue/Rychen.html> for a complete table of contents

- Annual Reports:

[http://www.statistik.admin.ch/stat\\_ch/ber15/desecco/1998-annual-report.pdf](http://www.statistik.admin.ch/stat_ch/ber15/desecco/1998-annual-report.pdf)

[http://www.statistik.admin.ch/stat\\_ch/ber15/desecco/1999-annual-report.pdf](http://www.statistik.admin.ch/stat_ch/ber15/desecco/1999-annual-report.pdf)

[http://www.statistik.admin.ch/stat\\_ch/ber15/desecco/desecco-annual-report2000.pdf](http://www.statistik.admin.ch/stat_ch/ber15/desecco/desecco-annual-report2000.pdf)