Key Competencies

for a successful life and a well-functioning society

Edited by
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Hogrefe & Huber
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Foreword

The world is rapidly becoming a different place, and the challenges to individuals and societies imposed by globalization and modernization are widely acknowledged and apparent. Our increasingly diverse and interconnected populations, rapid technological change in the workplace and in everyday life, and the instantaneous availability of vast amounts of information represent but a few of these new demands. Other demands relate to the type of world OECD countries want to promote: balancing economic growth with the sustainability of natural environments, individual prosperity with social cohesion and reducing societal inequalities. The development of the knowledge, skills, and competencies of the population – through education systems and learning opportunities in the workplace and other venues through the life span – is key to meeting these demands. This necessarily sparks related questions about what are the competencies that are most important for today’s and tomorrow’s world and how they can be developed and fostered. OECD countries are at the forefront of addressing these issues and developing sound indicators of the knowledge and skills of young people and adults. To date, however, OECD work in this arena has focused on measuring individuals’ reading, mathematical, and scientific literacy. The Definition and Selection of Competencies: Theoretical and Conceptual Foundations (DeSeCo) Project was initiated to provide solid theoretical and conceptual foundations for the broad range of competencies that
are needed to face the challenges of the present and the future. The project, in which many OECD countries have participated, is led by the Swiss Federal Statistical Office in collaboration with the U.S. Department of Education, National Center for Education Statistics, and with support from Statistics Canada.

DeSeCo aimed to develop, through an interdisciplinary, collaborative, and forward-looking approach, a frame of reference for assessments and indicators of competencies that would have resonance with the information needs of policy-makers.

The first DeSeCo volume – *Defining and Selecting Key Competencies* – was published in 2001 and provides the scholarly contributions during the first phase of the project. In these papers, one can find the bases on which the DeSeCo framework is built and fully appreciate the rich interdisciplinary nature of the project. The present volume presents DeSeCo’s final report. It is a vital contribution to advancing our understanding of what it means to be a competent individual and of how investments in key competencies can benefit both individuals and societies. DeSeCo’s overarching framework is valuable because it provides a broad-based conceptual foundation that recognizes the complexity of the topic and stimulates us to take a more comprehensive view on why key competencies are important and to reflect on what we value in competent individuals and what type of world we are striving for.

DeSeCo’s framework will serve as a guide to the OECD for the planning and implementation of a coherent, long-term strategy for assessments and indicators of key competencies among young people and adults. The DeSeCo framework could also find much wider application in the development of education and training programs for all stages of lifelong learning.

Many people made important contributions to the work of DeSeCo, but none more than Dominique Simone Rychen and Laura Salganik. Their commitment, their intellectual leadership, and their drive have ensured that the work has been brought to such a productive conclusion. Heinz
Gilomen and Eugene Owen provided the project with significant intellectual support and, through the Swiss Federal Statistical Office and the National Center for Education Statistics, with crucial financial support. I thank the four of them on behalf of all who enjoyed the opportunity to work with them on the project and all who will benefit from this publication.

Barry McGaw
Director for Education
OECD
We would like to express our sincere gratitude to those who have contributed immeasurably to the DeSeCo Project over the past five years. We are much indebted to Heinz Gilomen, Director of Social and Education Statistics at the Swiss Federal Statistical Office (SFSO) and chair of the DeSeCo Steering Group, whose leadership and intellectual input have been indispensable. Our thanks also go to the SFSO, its Director General, Adelheid Bürgi-Schmelz, and its former Director General, Carlo Malaguerra, for taking on the role of lead country for the project. We are very grateful to Barry McGaw, Director of the OECD’s Directorate for Education; Andreas Schleicher, Head of the OECD’s Indicators and Analysis Division; Eugene Owen, Director of the International Activities Program of the U.S. National Center for Education Statistics, (NCES); Valena White Plisko, Associate Commissioner of NCES; and T. Scott Murray, Director of Social and Institutional Statistics, Statistics Canada, for their support and participation as members of the DeSeCo Steering Group.

From its inception, this project has benefited from the interest and active participation of an international group of renowned scholars, experts, and policy-makers. We are grateful to the many individuals who contributed to the various activities throughout the project, including Jorma Ahola, Thomas Alexander, Marilyn Binkley, Norberto Bottani, Satya Brink, Martine Brunschwig Graf, Carlo Callieri, Monique Canto-Sperber, John Carson, Jacques Delors, Alexandra Draxler, Ruth Dreifuss, Rita Dunon, Jean-Pierre Dupuy, Jean-Claude Emin, Jean-Patrick Farrugia, Helmut Fend, Barbara Fratczak-Rudnicka, David Fretwell, Iddo Gal, Andrew Gonczi, Jack Goody, Marit Granheim, Tom Griffin, François Grin, Bob Harris, Helen Haste,

We are particularly thankful to Jean-Pierre Dupuy, Helmut Fend, Jack Goody, Robert Kegan, Rolf Lischer, Heinz-Herbert Noll, Tim Oates, Philippe Perrenoud, Cecilia Ridgeway, Paul Röhtlisberger, and Uri Peter Trier for their valuable comments on drafts of the chapters in this book.

There are several individuals who were instrumental in preparing this book. We would particularly like to thank David Nohara and John Konstant for their invaluable writing and editorial assistance. We also extend our thanks to Caroline St. John-Brooks for her writing and editorial support. Last, many thanks to Andreas de Bruin of Publi Duty for the graphic design, Sanjay Seth for the layout, and Robin Gurley, Martin Hahn, Mary McLaughlin, and Marion Scotchmer of the Education Statistics Services Institute of the American Institutes for Research, for their help in preparing the final manuscript.
Introduction

A project defined

Recent trends toward increasing diversity and liberalization on the one hand, and continued globalization and standardization on the other hand, both within and across countries, present clear challenges. While individuals and the governments that represent them seek continuous economic growth, there is concern regarding the impact of this growth on natural and social environments (OECD, 2001d). In a similar vein, many are uneasy that although the rapid introduction of new technologies may increase productivity, it will also contribute to increasing social inequality. In such a context, education is widely considered an indispensable aspect of any and all conceptual and practical approaches to these issues, as evidenced by the ever-increasing emphasis that is placed on education as a resource and asset for individual and social achievement. With this heightened attention on education, tomorrow’s curriculum has become a relevant topic for political discourse and education reform efforts all over the world. There is a growing concern among governments and the general public about the adequacy and quality of education and training, as well as the economic and social returns on public educational expenditures.

As a result, the Organisation for Economic Co-operation and Development (OECD) and other multinational institutions have invested considerable effort in the development of internationally comparable outcome indicators in the education field (Salganik, Rychen, Moser, & Konstant, 1999; Salganik, 2001). In general, these indicators measure traditional notions of academic achievement and skill development, such as reading and mathematics skills. This focus is partly the result of practical considerations, but
is also due to the widely held and justifiable notion that these areas are crucial to success in the modern economy and society. Simultaneously, though, for some time it has been recognized that these curriculum-based and subject-related competencies and basic skills do not capture the full range of relevant education outcomes for human and social development and political and economic governance.

Apart from reading, writing, and computing, what other competencies are relevant for an individual to lead a successful and responsible life and for society to face the challenges of the present and the future? What are the normative, theoretical, and conceptual foundations for defining and selecting a limited set of individually based key competencies (Rychen, 2001)? An interest in such questions led to an international and interdisciplinary endeavor launched in late 1997 under the auspices of the OECD. This project, entitled Definition and Selection of Competencies: Theoretical and Conceptual Foundations (hereafter referred to as DeSeCo), has been carried out under the leadership of Switzerland.

DeSeCo’s goal was the construction of a broad overarching conceptual frame of reference relevant to the development of individually based key competencies in a lifelong learning perspective, to the assessment of these competencies in an international setting, and to the development and interpretation of internationally comparable indicators. DeSeCo has considered the topic of important, necessary, or desirable competencies from a broad, holistic perspective. Thus, the reflection on key competencies was
not limited to a particular context such as school and student achievement, or workers' skills and the demands of the labor market, or to what is easily or currently measurable in large-scale assessments. Rather, DeSeCo focused on competencies that contribute to a successful life and a well-functioning society.

Based on theoretical and conceptual approaches to competence and informed by political and practical considerations, the DeSeCo Project succeeded in developing a conceptual frame of reference for key competencies. The present volume delineates this framework whereby demand-oriented competencies are conceptualized within a three-fold categorization. The DeSeCo framework provides a solid conceptual underpinning for future international efforts to assess the competencies of young people and adults within, and possibly beyond, the OECD. The results also present a reference point for interpreting empirical findings about the outcomes of learning and teaching. Further, this volume offers an important contribution to the debate on priority areas for competence development and on policies aimed at enhancing key competencies for all. What follows in this introduction is an outline of the basic considerations underlying the DeSeCo Project and a description of the processes that contributed to the results.
Basic considerations and research questions

DeSeCo originated in a governmental context, the OECD, and thus is organized as a policy-driven research project. The following questions exemplify the issues that have guided the reflections and conceptual work on key competencies (Rychen & Salganik, 2001):

- 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; and individual 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? Is the premise of a limited number of key competencies justified?
- Do key competencies operate independently, or should they be viewed as an interdependent set or constellation of competencies?
- To what extent are key competencies immutable with reference to social, economic, and cultural conditions? To what extent are they generally valid from country to country or from region to region?
- 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 careers, or retire?
- What are the consequences of these results for the development and interpretation of indicators?

From the start of this study, it was clear that determining key competencies is not simply an academic exercise. As one contributor to DeSeCo wrote, “It is not enough for experts simply to define a conceptual and methodological framework. The question is both ethical and political” (Perrenoud,
Ultimately, the identification of a valuable and legitimate set of key competencies is the result of a process of analysis and discussion that occurs in the realm of policy and politics, in which academics are only one of several stakeholders. To this end, the DeSeCo Project has attempted to broaden the discussion by inviting participation from a variety of experts and policy-makers representing the range of interested parties.

Several notions have been emphasized throughout the project as particularly relevant to the topic of key competencies. First, DeSeCo does not deal with competencies simply from the point of view of society’s basic functioning and individuals’ immediate survival. It approaches the question of competencies via the perspective of a successful life and a well-functioning society, conceiving the potential societal benefits of a well-educated citizenry as including a productive economy, democratic processes, social cohesion, and peace. At the individual level, the potential benefits of competencies entail successful participation in the labor market, in political processes, and in social networks; and meaningful interpersonal relations and general satisfaction with one’s life.

Second, although cognitive skills and knowledge – as explicitly transmitted through traditional school programs – are important education outcomes, the reflection on competencies cannot be limited to such elements. Both labor market behavior and current research on intelligence and learning indicate the importance of noncognitive factors such as attitudes, motivation, and values, which are not necessarily or exclusively acquired and developed in the domain of formal education.

Third, terms such as key or core competencies, life skills, or basic skills are in widespread use with multiple, varied, and ambiguous definitions. Therefore, a clarification of the concept of competence and related terms is indispensable.
Finally, DeSeCo recognizes that multiple approaches to the notion of key competence exist. Depending on the perspective, different and not necessarily compatible arguments and methodologies may be emphasized. Thus, competencies need to be examined from multiple disciplinary and practical viewpoints.

In light of these basic considerations, constructing a solid overarching frame of reference required the project to focus on the theoretical constructs and models that underlie and guide analyses and discussions on key competencies, to explicitly include the normative considerations inherent to the undertaking, and, last but not least, to consider the definition and selection processes that take place in different socioeconomic and cultural environments. The project’s work program, in turn, was designed to fulfill these criteria to the widest extent possible.

The work program

DeSeCo’s work program was designed to include multiple perspectives on the topic of competencies and to encourage dialogue and exchange among various stakeholders at the national and international levels. The work program consisted of four major activities.
The first activity was a critical analysis of several studies conducted during the 1990s in OECD countries related to indicators of education outcomes (Salganik et al., 1999). The analysis focused on the origin of concepts, the theoretical and normative considerations, and the mechanisms of the definition processes that influenced the conceptualization and realization of the studies in question.

Building a common understanding depends to a great deal on common language and meaningful terms; otherwise, one risks juggling with catchwords only. In light of the terminological and conceptual confusion related to notions such as competence, skills, qualifications, standards, literacy, and so on, the second major activity was a preliminary clarification of the concept of competence (Weinert, 2001).

The third activity of DeSeCo’s work program was the determination of theory-grounded sets of key competencies through the input of expert
opinions. Scholars from different academic disciplines (anthropology, economics, philosophy, psychology, and sociology) were each asked to construct a set of relevant key competencies from their own theoretical background and disciplinary perspective. They were expected to justify their selections theoretically, taking into account any available state-of-the-art research-based evidence. Subsequently, a commenting process was initiated, wherein the scholarly papers were distributed among the authors, other academics, and leading representatives from various fields. It was a first step to exploring the main convergences and divergences among the different disciplinary perspectives and to gain insight into priority areas from a more practical and policy-oriented perspective.

Finally, a country consultation process (CCP) was organized within the OECD to review national experiences in the definition and selection of key competencies and issues related to the development and assessment of competencies (Trier, 2003). Twelve countries prepared national reports on the topic of key competencies and education indicators. The result was a clarification of the various approaches taken by different countries to determine and satisfy national education needs and priorities.

1 The scholars are Monique Canto-Sperber, Centre National de la Recherche Scientifique, France, and Jean-Pierre Dupuy, Ecole Polytechnique, Centre de Recherche en Epistémologie Appliquée, France, representing a philosophical perspective; Jack Goody, St. John’s College, University of Cambridge, United Kingdom, representing an anthropological perspective; Helen Haste, University of Bath, United Kingdom, representing a psychological perspective; Frank Levy, Massachusetts Institute of Technology, United States, and Richard J. Murnane, Harvard University, United States, representing an economic perspective; and Philippe Perrenoud, University of Geneva, Switzerland, representing a sociological perspective. Their contributions are published in Rychen and Salganik (2001).

2 The commentators included Carlo Callieri, Confindustria, Italy; Jacques Delors and Alexandra Draxler, Task Force on Education for the Twenty-first Century, UNESCO; Jean-Patrick Farrugia, Le Mouvement des Entreprises de France (MEDEF), France; Bob Harris, Education International; Robert Kegan, Harvard University, United States; George Psacharopoulos, University of Athens, Greece (formerly with the World Bank); Cecilia Ridgeway, Stanford University, United States; Laurell Ritchie, Canadian Auto Workers, Canada; M. Boediono, Ministry of Education and Culture, Indonesia; and Leonardo Vanella, Centro de Estudios e Investigación del Desarrollo Infanto-Juvenil, Argentina. Most of these comments are published in Rychen and Salganik (2001).

3 Austria, Belgium (Flanders), Denmark, Finland, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, and the United States.
Debates and exchange: From multiple perspectives toward interdisciplinary insight

Each of the four activities described above highlighted the specific challenges that DeSeCo would have to overcome and reinforced the project’s intention to bring together the knowledge and insight gained from these activities. To that end, a series of events was organized to move from specific activities and multiple perspectives toward a common understanding of the issues at stake and, eventually, to a consensus on an integrated frame of reference.

DeSeCo Symposium 1999

The first international symposium, held in Neuchâtel, Switzerland, in October 1999, was a forum for intense debate and exchange among about 60 invited experts and academics. It brought together the authors of the scholarly papers representing the different disciplinary perspectives, other academics, and representatives of leading social and economic institutions to reflect on DeSeCo’s aforementioned first three activities. The symposium succeeded in

- creating an international network of academics and experts representing different disciplines and social fields interested in collaborating and working together toward an overarching conceptual framework for identifying key competencies,
- increasing the discussion and awareness of the issues inherent in dealing with questions of competencies and their assessment, and
- clarifying which avenues would be particularly fruitful for further work in this area.

Expert papers prepared in conjunction with the first DeSeCo symposium were compiled into Defining and Selecting Key Competencies, released in August 2001 (Rychen & Salganik, 2001).

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4 For information about this symposium, go to http://www.statistik.admin.ch/stat_ch/ber15/deseco/deseco_symp99.htm
Following the symposium, the conceptual work on key competencies progressed as two subsequent workshops with the authors of the scholarly papers were organized to further explore possible commonalities and differences in defining and selecting key competencies. In light of these reflections, an interim synthesis (Rychen & Salganik, 2000) was prepared laying out DeSeCo’s findings on a number of theoretical and conceptual issues and outlining common features among the proposed approaches to defining and selecting competencies.

Toward a consolidation of the overarching frame of reference

During 2001, a number of additional expert papers were commissioned to complement and extend the examination of key competencies represented in the first publication.5 Based on the expert papers contributed throughout the project and the country reports, a revised synthesis in the form of a discussion paper was prepared in anticipation of a second international symposium (Rychen & Salganik, 2002). The discussion paper outlined the major themes and theses developed in the course of DeSeCo’s work program. Rather than focus on the extraordinary richness and diversity found

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5 The authors included Barbara Fratczak-Rudnicka, Warsaw University, Poland; Judith Torney-Purta, University of Maryland, United States; Daniel Keating, University of Toronto, Canada; and Tim Oates, Qualifications and Curriculum Authority, London, United Kingdom. These papers are published in Rychen, Salganik, and McLaughlin (2003).
in the contributions (which could not have been presented adequately), it focused on the common strands as a means of moving toward a consensus about key competencies for the 21st century.

DeSeCo Symposium 2002

A second international DeSeCo symposium was held in February 2002 in Geneva. The symposium provided further opportunity to work toward a consensus on key competencies among a wide range of countries, stakeholders, and interest groups. The various inputs and the engaging discourses of the various sessions at the symposium enabled the project to take an important step toward a more coherent view of what constitutes key competencies.

DeSeCo's final conclusions and recommendations

In response to an OECD request, a strategy paper with the project’s conclusions and recommendations was prepared during the first half of 2002 (OECD, 2002). The strategy paper is further developed in this volume, the final report of the DeSeCo Project, which draws primarily on contributions to DeSeCo since its inception.

As described in this introduction, DeSeCo’s conclusions and recommendations are the ultimate result of an international collaborative effort among scholars from different disciplines; experts from education, business, labor, health, and other relevant sectors; specialists in large-scale assessments; and representatives of OECD member countries and of international

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6 For more information about this symposium, go to http://www.statistik.admin.ch/stat_ch/ber15/deseco_int02.htm
organizations such as UNESCO, the World Bank, the International Labour Organisation (ILO), and the United Nations Development Program (UNDP).

Outline of this volume

In chapter 1, Laura Hersh Salganik and Maria Stephens provide a backdrop for the subsequent chapters with an analysis of contributions to DeSeCo from the policy sector, including the country reports from the CCP.

Chapters 2, 3, and 4 delineate the major theoretical and conceptual elements of DeSeCo’s overarching frame of reference for key competencies. Chapter 2, by Dominique Simone Rychen and Laura Hersh Salganik, presents a holistic model of competence, which integrates and relates demands, cognitive and noncognitive prerequisites, and context into a complex action system. Chapter 3, by Dominique Simone Rychen, lays out analytical criteria for defining and selecting key competencies leading to a three-fold categorization for key competencies – interacting in socially heterogeneous groups, acting autonomously, and using tools interactively. In chapter 4, Heinz Gilomen addresses the topic of conceptual linkages between key competencies and the quality of a successful life and a well-functioning society and, as an initial step, outlines a number of critical dimensions of these desired outcomes.

Chapters 5 and 6 move the discussion to the realm of assessments and indicators of key competencies. Chapter 5, by T. Scott Murray, discusses the broad policy relevance of assessments of key competencies and the implications of DeSeCo’s frame of reference for the development of assessments and indicators in the future. In chapter 6, Andreas Schleicher, writing from an OECD perspective, discusses the challenges associated with the development of a coherent, long-term assessment strategy based on the theoretical and conceptual foundations provided by DeSeCo.

The book closes with concluding remarks by Heinz Gilomen and an afterword by Eugene H. Owen.