

Extended summary:

This document aims to establish an infrastructure for promoting activities in the field of integrating skills acquisition within educational systems. It seeks to clarify the profound significance of skills and qualifications in contemporary society, while conducting an in-depth analysis of the meanings and definitions associated with skills and competencies, knowledge, values and attitudes. The overarching objective is to create an ecosystem and a shared foundation for all stakeholders involved in this subject. This particular field holds exceptional importance for the State of Israel, as OECD surveys indicate that while the "amount of education and knowledge" in terms of years of schooling is the highest among OECD countries, the quality of education, as reflected in knowledge and skills according to PIAAC surveys, ranks among the lowest.

Chapter 1, Introduction

In recent years it has become apparent that in modern education, starting at infant age through academy, it is not sufficient to focus only on knowledge and it is essential to take steps for skills and competencies acquisition as part of the mission of the education system, school, academy and life-long learning.

The importance of skills and competencies has been highlighted in numerous studies of recent years, showing that the quality of human capital required to advance the well-being of society and national economy is dependent not only on knowledge, but also on skills and competencies such as critical thinking, innovation and self-study abilities. This has led to intensive activities to advance skills and competencies acquisition in the various education systems, schools, academy, life-long learning, as well as considerations of the need to initiate activities at early childhood.

Numerous endeavors are active to advance this mode of action, yet they are largely operating independently without synergy between them, and sometimes without motivation for the field, since not all are convinced of the importance of skills and competencies acquisition in the education system.

The root-cause for the lack of synergy is the lack of acceptable and well-defined definitions of the terms skills and competencies. The OECD has defined this space in terms of categories which include competencies, knowledge, skills, values and attitudes.

Yet, there is no general agreement on the specific definitions of terms within this "space", especially since competencies are composed of assembly of knowledge, skills, values and attitudes and the grouping of these is subjective.

The present report is intended to establish the infrastructure for advancing the implementation of skills and competencies acquisition in the education system, by highlighting their importance in modern society in general and in Israel in particular (chapter 2 and 3 in the report) and in-depth analysis of the meanings of competencies, knowledge, skills, values and attitudes, in order to establish a common denominator to all who are active in this area (chapters 4, 5, 6 in this report).

Chapter 2, human capital and its contribution to the wellbeing of the state: Discusses the strengths and weaknesses of the Israeli education system based on indicators of OECD surveys. They show that the "quantity of education" in Israel, as expressed in the number of study years, is among the highest in the OECD countries, while the "quality of education" as reflected in skills and competencies in PIAAC surveys is below the OECD average.

Chapter 3 evaluates the effect of skills and competencies on the well-being of the individual with respect to employability. A survey of the Israeli CBS (September 2020) points clearly towards the significance of skills in general and specifically critical thinking, organizational skills, self-study and writing skills as the critical skills required for the employment market. The need for these skills is especially high in the professions of engineers and lawyers.

Chapter 4 offers a scheme which could be a common basis for educational activities for promoting competencies, knowledge, skills and values.

Chapter 5 presents a table which is essentially a matrix of competencies vs. knowledge + skills + values and attitudes, methodologies of teaching and experiencing, methods for evaluation, based on compilation of OECD documents, Israel Ministry of Education and various partners in the “Interface Project for Acquisition of Skills”.

The competencies in which the table is focusing were selected based on preliminary investigations to resolve the competencies required to advance excellence in STEAM studies (Science, Technology, Engineering, Arts and Mathematics). To these competencies the leadership competency was added, which is essentially an assembly of competencies. The list of competencies include:

- Self-study, life-long learning
- Complex problem solving/critical thinking
- Entrepreneurship/innovation/creativity
- Emotional and thinking flexibility
- Intercultural awareness, global competency and inclusion of the other
- Responsibility taking and decision making/ethical awareness/morality
- Leadership

The outline of the matrix-table highlights only its two axes, i.e., competencies vs. their composition, pedagogies, evaluation and relevance to 21st century. The details are provided in the full report.

Chapter 6 presents preliminary insights and conclusions based on a round table discussion held in November 2021. Many stakeholders were involved in this discussion, including senior representatives from the Ministry of Education, the Technion, The National Center for Testing and Evaluation, the Academic College Beit Berl, Israeli Defense Forces (IDF), the Central Bureau of Statistics and the Samuel Neaman Institute for National Policy Research.

The main insights included:

- The field of acquisition of competencies and skills is relatively new and time will be needed to develop testing methodologies which can match in reliability the current psychometric tests. Therefore, there is a need to commence with an agreed upon process to characterize competencies and skills, education methodologies and experiencing, as well as evaluation methods for agreed upon characterization.
- Teachers, academic staff and students must realize that competencies and skills acquisition and evaluation are important missions for all involved, to enhance their career and self-development as well as employability.
- There is a need to devote time and efforts to engage in training and professional development of teachers and lecturers in order to equip them with the skills and methodologies required to integrate skill acquisition in the educational process and its evaluation within the context of content driven courses.

- The integration of skills and competencies such as self-study, teamwork, and problem-solving transfers part of the responsibility of learning to the learner, and this responsibility does not solely lay upon the teacher or lecturer.
- The common language to characterize skills and competencies in different organizations, such as the Ministry of Education and employing bodies are essential for having a sustainable process of integration of skills and competencies in the practice of the various organizations.