

2. Measuring the social outcomes of learning: OECD Network B's role and perspective

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The Social Outcomes of Learning project is jointly sponsored by two groups within the OECD: CERI and Network B. These groups joined forces because they had a common interest in investigating whether education has positive benefits for individuals and society beyond the economic and labour market benefits that have traditionally been the focus of research. For example, does education help foster civic engagement, does it help individuals lead healthier lives, does it increase social tolerance and cohesion? In short, does education have effects on social outcomes, as well as on economic and labour market outcomes? Both groups are interested in understanding these relationships in order to better inform educational policy-making, either directly through policy analysis, or indirectly through indicator development. This paper outlines in more detail Network B's indicator perspective on the social outcomes of learning.

The indicator perspective

Network B is part of the OECD's Indicators of Education Systems (INES) programme. The INES programme implements procedures for the development of statistically comparable data on education systems across countries, data that are used to develop international indicators of education systems. These indicators are published annually in the OECD report *Education at a Glance – OECD Indicators*.

Before examining Network B's role in the SOL project, it helps to understand exactly what an indicator is and the purpose it serves. Simply stated, an indicator is a statistic (or set of statistics) that provides a succinct description of the condition or performance of a system (*e.g.*, institution, service, economy, society). Indicators can describe inputs, processes, or outcomes. They can be used to provide evidence of how conditions or performance vary over time (by comparing indicators at different points in time) or across a system (by comparing indicators for different entities, such as schools, within a system). Indicators used to monitor national economic and labour market conditions tend to be fairly well-known, and include indicators such as the consumer price index and inflation rate (for economic conditions) and the unemployment rate and job-growth rate (for labour market conditions). Within education, schools or countries may use indicators such as

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pass rates on standardised tests, secondary-school graduation rates, or school drop-out rates to monitor students' progress.

Finally, good indicators have a number of characteristics (as also noted in Section 3.C in this volume):

- **Relevance:** The condition or performance measured by the indicator should be important to policy makers. That is, the indicator should address an important policy question or issue.
- **Validity/accuracy:** An indicator should measure the condition or performance of interest in a meaningful way; it should measure what people believe it measures.
- **Reliability/consistency:** An indicator should be measured consistently and with little error.
- **Clarity/interpretability:** An indicator should be easy to understand and interpret.
- **Accessibility/feasibility:** The data for an indicator should be readily available and affordable to collect.
- **Timeliness:** The information provided by the indicator should be timely, so that it provides information relevant for current policy action.
- **Coherence:** Sets of indicators should be logically connected and mutually consistent.

Network B indicators

Within the INES programme, Network B was originally responsible for the development of indicators of “student destinations”; that is, indicators that show what happens to people (with varying amounts of educational attainment) after they leave the education system. Historically, the Network has focused on the development of indicators of individual's economic and labour market outcomes. For example, one indicator shows, within each country, the relationship between individuals' educational attainment level and their earnings. Other indicators focus on equity issues, comparing earnings within education levels for males and females, and the distribution of earnings within each country. Additional indicators show the relationship between individuals' educational attainment level and (a) employment rates and (b) unemployment rates. Indicators of the outcomes of adult learning are also under development.

All of these indicators are used to demonstrate the role of education (often mediated by other policies, such as income redistribution policies) in fostering individual's economic success. Although there are competing hypotheses, this interpretation is supported by human capital theory, which is in turn supported by a fairly robust evidence base. Specifically, human capital theory postulates that education provides the skills and knowledge (human capital) needed in the workplace; the more human capital one obtains, the more valuable one is within the labour force, leading to a higher rate of labour force participation and higher earnings. Thus, the Networks' core indicators can confidently be interpreted to at least in part show *the effects of* education on labour market outcomes. Given this interpretation, these indicators are relevant to policy makers who want evidence on 1) the success of their education system in improving labour market outcomes, and 2) the economic value of their education system for individuals and

society. In other words, the indicators meet the first criterion above of being policy-relevant.

Much of the evidence for the relevance of human capital for economic well-being was reviewed in the 2001 OECD publication *The Well-Being of Nations*. More importantly, however, that report advocated for a broader perspective on well-being that moves beyond economics to include other important aspects of individual and social life, such as health, social cohesion, social trust, and civic participation. In the wake of *The Well-Being of Nations*, interest has grown within the OECD in understanding the broader effects that education may have beyond labour market effects. Within this broader perspective, Network B is interested in expanding its indicator development work to include indicators that demonstrate education's effects on non-economic aspects of well-being.

However, the requisite policy and measurement frameworks needed to support indicator development do not yet exist for social outcomes indicators. It is unclear, for example, whether one can assume that an indicator showing a positive relationship between education attainment level and voting rates indicates an effect of education on voting behaviour. Perhaps people who stay in school are also more likely to vote, not because of some benefit of education, but because these individuals are more “socially compliant” or have a greater sense of control over their lives, either of which could motivate participation in both education and voting. In this case, indicators of the relationship between education and voting would have less relevance for education policy makers, as they could not be interpreted as showing a beneficial effect of education on individual or social life. Thus, before proceeding with the development of indicators of the social outcomes of education, we need to understand better the nature and causes of the relationship between education and social outcomes. In particular, three key issues need to be addressed before proceeding with indicator development:

- Theoretical issue: What would the indicators mean – what would they tell us? More specifically, to what extent does learning contribute to social outcomes, and through what mechanisms? What other factors may mediate this relationship? If learning cannot be shown to contribute to social outcomes, what interpretation or purpose would such indicators have; what would their relevance be to policy?
- Measurement issue: Would the indicators provide information we can believe? Specifically, how reliable and valid are various measures of social outcomes, particularly across countries? Which outcomes are more amenable to international measurement, and which less so? What proxy measures are acceptable?
- Data issue: How would we get the information for indicators? What international data sources currently exist, and what is the quality of the data from these sources? How could existing data sources be improved for this purpose? What future data collections might provide useful information? In particular, how could the OECD's planned Programme for International Assessment of Adult Competencies (PIAAC) contribute to this effort?

The SOL work thus far, summarised in this volume, has focused on the first of these three issues. The second two issues will be addressed in two expert papers that were recently commissioned subsequent to the Copenhagen symposium. These papers will focus on the same two social domains targeted in the first part of the project (civic/social engagement and health). The paper authors are, for civic and social engagement, Christine Mainguet and Ariane Baye (from Belgium) and for health, San Keller and Dan

Sherman (from the United States). These papers will determine, first, for which specific aspects of health and civic/social engagement indicators should be developed, and second, for each specific social outcome, how to best develop indicators that demonstrate the relationship between education and the social outcome. This evaluation will include a review and discussion of measurement issues related to the outcome (*e.g.*, can it be measured validly and reliably across countries?); rationales for different levels of measurement; the potential of available data sources for indicator development, with proposals for revisions to existing data collection instruments and additions to future surveys in order to provide data for indicators; and the development of prototype indicators (based on existing data) and hypothetical indicators (based on data proposals).

At the end of the SOL project, Network B hopes to have answers to the key questions listed above, summarised in three key project outputs:

- A research-based rationale for indicator development, including the policy relevance of social outcomes indicators.
- Recommendations to OECD for the most reliable and valid measurement strategies.
- Recommendations to OECD for data collection strategies and sources, including proposals for the use of PIAAC.

The symposium papers

The papers included in this volume provided Network B with a rationale and direction for the indicator development work described above. A key decision resulting from these papers was that this development work should proceed, but with a different rationale from that originally proposed by the Network. As discussed above, the original goal was to develop indicators showing the relationship between education and, for example, health status, in order to demonstrate *the effect* of education on health status. However, although the papers in this volume present fairly strong evidence for such a causal relationship, questions remain about the relative size of this effect and the mechanism through which it operates. As virtually every author noted, we need better data to answer these questions. Thus, the current argument for indicator development rests on indicators' utility as signals to provide attention to and stimulate discussion of the role of education in society, including the broader social goals that education systems (and learning in general) should have. For example, should individuals' likelihood of voting be related to their education level, or should voting rates be equivalent across education levels? What differences in education systems, political systems, and cultures exist across countries that could account for differences in the relationship between voting and education level? How does the prevalence of tobacco smoking vary across countries when examining individuals at the same education level? What do these differences suggest about the specific roles and challenges faced by education systems within each country?

Listed below are some additional points relevant to indicator development made by the authors of the two major commissioned papers (Feinstein *et al.* and Campbell) and the authors of the two response papers that focused on indicator issues (Mainguet and Baye, and Salganik). The other papers also include issues relevant to indicator development.

Feinstein *et al.* conclude that the evidence for the effects of education on health is sufficient to support indicator development to “compare internationally the harnessing of education productivity in the service of health outcomes”. They also recommend,

however, for improved data collection and analysis, including longitudinal studies to support causal analysis; natural experiments to test causal models; qualitative data to shed light on the mechanisms through which education and social outcomes are related, particularly on the qualitative aspects of education (as opposed to the quantitative educational attainment measure); and more extensive use of existing international datasets to explore alternatives for indicator development.

Campbell also argues for indicator development to summarise the relationship between education and civic engagement, at both the individual level and the classroom level. His paper tests different models of causality that have implications for how indicators should be developed. For example, outcomes that are related to education under the “absolute model” should be assessed with indicators that relate each individual’s social outcome to their own education level, while under the “cumulative model”, indicators are best developed that relate each outcome to the overall education level in the individual’s environment. This paper underscores the need to more fully understand education and social outcome relationships in order to develop indicators that are appropriate to demonstrate these relationships.

Mainguet and Baye detail a number of conceptual and methodological issues that must be considered prior to indicator development. They first point out the need for a clear underlying framework and definition of terms. For example, does “civic engagement” include attitudes, values, and knowledge as well as behaviours? And how are these different aspects of civic engagement related to each other? These authors also note the need to consider appropriate levels of measurement (micro/individual, meso/community, macro/national), the importance of the distribution of (equity of) outcomes, the possibility of threshold effects (*i.e.*, education may not have an effect until some minimal level is attained), and the comparability of concepts and measures across countries. Each of these issues has important implications for what should be measured in an indicator and how the indicator should be constructed.

Salganik picks up on the framework issue raised by Mainguet and Baye. She points out the need to place the relationship between education and a given social outcome within a broader framework that includes all (major) influences on the outcome. As Salganik notes, a broad framework helps make explicit the nature of the relationship between education and a given social outcome, as well as the size of education’s effect relative to other influences. Salganik also emphasises the need for a rationale for how education affects each social outcome. Salganik suggests the OECD Definition and Selection of Competencies (DeSeCo) project as a useful tool for this purpose. For example, what competencies (or components of competencies) does education provide that make individuals better able to maintain a healthy life? Finally, she notes the importance of including a broad range of stakeholders in the framework and indicator development process, and the use of indicator measures that are widely recognised and understood.