

The economics of learning beyond the classroom: Valuing the returns

With the emergence of what has been described as the “knowledge-based” economy and society, national and regional policies have become much more directed at the acquisition of the skills, knowledge and dispositions needed to be productive in the workplace and to function in adult life. This policy orientation – from regional economic development authorities, labor departments, and finance and taxation units as well as education departments -- reflects an emphasis on learning over teaching and a concern with what young people and adults “should know and be able to do” regardless of where and how such capacities are acquired. From this perspective, differences in learning beyond the classroom may provide part of the explanation of variation in demonstrated capacities when levels of schooling are taken into account.

In economics, concepts and analyses of the value placed on skills and knowledge trace to the work of Nobel laureates Theodore Schultz, Milton Friedman, and Gary Becker among others. The treatment of stocks of skills and knowledge as an asset -- embodied in an individual, differentiated in ways that provide for both complementarities and substitutions as time and effort are given to market and non-market activities, and subject to obsolescence and depreciation – stands as the standard economic approach for defining, measuring and analyzing the returns to learning in school and beyond. New assessments now permit more finely grained estimates of returns to skills and knowledge that can be compared with and distinguished from conventional estimates in the economics literature of the benefits of learning, most typically through schooling and in the form of increased earnings.

I. Introduction: Schooling, learning, and human capital

A. The economics of schooling and learning: The human capital approach (summary of concepts, assumptions, and alternative explanations/approaches)

B. Overview of paper

II. Definitions and measures

A. Distinguishing outputs (skills, knowledge ...) and outcomes (benefits ...)

B. Distinguishing outputs and outcomes for schooling and beyond schooling

C. The evidence (a) findings from extant national and comparative assessments of achievement, skills, knowledge, and competences; (b) associations between learning outputs and benefits (schooling v. post-school training/acquired skills; schooling v. competency assessments, for young people and adults).

III. Conclusions: Directions for policy and practice (e.g. schooling as a substitute or complement? Qualifications frameworks?)

Initial listing of selected references

Arrow, Kenneth (1973), "Higher education as filter", *Journal of Public Economics*, 2, pp. 193-216.

Becker, Gary (1975). *Human Capital*, 2nd edition, Princeton University Press.

Behrman, Jere R. and Stacey, Nevzer (1997). *The Social Benefits of Education*. University of Michigan. (measures and examines the benefits of education beyond monetary effects).

Layard, Richard and Psacharopoulos, George (1974), "The screening hypothesis and the returns to education", *Journal of Political Economy* 82, pp. 985-98.

Levy, Frank and Richard J. Murnane, "Are there key competencies critical to economic success?", in *Defining and Selecting Key Competencies*, eds. D.S. Rychen and L.H. Salganik (eds),

Mason, Geoff (1995). *The New Graduate Supply-Shock: Recruitment and Utilization of Graduates in British Industry*, National Institute of Economic and Social Research, London, 1995.

Mincer, Jacob (1972), *Schooling, Experience and Earnings*, NBER.

OECD (2000). *Measuring student knowledge and skills: The PISA 2000 assessment of reading, mathematical and scientific literacy*, Paris.

_____ (2003). *Literacy skills for the world of tomorrow. Further results from PISA 2000*, Paris.

_____ (2003). *Learners for life. Student approaches to learning. Results from PISA 2000*, Paris.

_____ (2003). *The PISA 2003 Assessment Framework: Mathematics, reading, science and problem-solving knowledge and skills*, Paris.

_____ (2005). *Problem solving for tomorrow's world. First measures of cross-curricular competencies from PISA 2003*, Paris.

OECD and Statistics Canada (2001). *Literacy in the information age. Final report on the International Adult Literacy Survey*, Paris and Ottawa

Psacharopoulos, George (1971). *Returns to Education*, Elsevier. [See also George Psacharopoulos and Harry Anthony Patrinos (2004). "Returns to investment in education: a further update," *Education Economics*, 12 (2), pp. 111-134]

Salganik, L.H., Rychen, D.S., Moser, U. and Konstant, J. (1999), *Projects on Competencies in the OECD Context: Analysis of Theoretical and Conceptual Foundations*, Paris, OECD.

Schultz, T.W. (1971). *Investment in Human Capital: The role of education and of research*. Free Press.

Statistics Canada and OECD (2005). *Learning a living: First results of the Adult Literacy and Life Skills Survey*, Ottawa and Paris.