

WHAT IS AN EDUCATED POPULACE AND HOW CAN IT BE MEASURED?

The goal of education is to make people wiser, more knowledgeable, better informed, ethical, responsible, critical and capable of continuing to learn. Education also serves society by providing a critical reflection on the world, especially its failings and injustices, and by promoting greater consciousness and awareness, exploring new visions and concepts, and inventing new techniques and tools. Education is also the means for disseminating knowledge and developing skills, for bringing about desired changes in behaviours, values and lifestyles, and for promoting public support for the continuing and fundamental changes that will be required if humanity is to alter its course, leaving the familiar path that is leading towards growing difficulties, and starting the uphill climb towards sustainability. Education, in short, is humanity's best hope and most effective means to the quest to achieve sustainable development.

United Nations¹

The Genuine Progress Index (GPI) is based on the understanding that the wellbeing of Canadian and Nova Scotian society is correlated with certain key conditions, including physical and mental health, healthy ecosystems, decent living standards and economic security, strong social ties, safe communities, a vibrant culture, and the ability to balance the often competing demands of paid and unpaid work with ample leisure time. Wellbeing in the GPI is also explicitly defined to include the welfare of future generations as well as that of the present generation.

Whether Canadians and Nova Scotians have the knowledge required to improve wellbeing and sustainability is seen as a key connection between all the above conditions. In this sense, the GPI educated populace indicators serve as vital connective tissue linking all the components of the Genuine Progress Index.

Abundant evidence indicates that education has a significant effect on quality of life in terms of its impact on income, population health, environmental quality, civic engagement, and other dimensions of wellbeing. Therefore, the evidence of whether or not Canadians and Nova Scotians are learning what they need to know to create a healthy, wise, and sustainable society should be seen in desirable social outcomes such as peace, equity, environmental stewardship, good health, cultural diversity, and social acceptance. This view of educational objectives and indicators is considerably broader than that found in conventional education indicator systems.

From this perspective, and in order for a society to assess social progress in general, and advances in learning and education in particular, it must first identify and define the knowledge required to create a healthy and sustainable society. In this endeavour, the key question therefore is: What is an educated populace?

Based on an extensive review of the research in this field, the following is the general consensus among a wide body of analysts and commentators about the key characteristics that constitute an educated person or populace:

- Engagement and capacity to learn throughout life with an attitude of openness, interest, and curiosity.
- Willingness to engage in personal and social transformation.
- Awareness of contextual situations and systems, social and economic interconnections, current world events, the processes of the natural world, the influence of current lifestyles on population health, and the choices and quality of life of future generations.
- Ability to analyse, communicate, and integrate ideas.
- Ability to solve problems collaboratively.
- Knowledgeable in areas required to improve societal wellbeing, and using that knowledge for the public good.

In sum, an educated populace has the knowledge and skills required to foster wellbeing in individuals and in the population as a whole—that is to live healthy lives, have decent jobs, participate actively in their communities as citizens, and understand the interdependence of the world in which they live, without imperiling these prospects for future generations. In the framework for this study developed by GPIAtlantic and illustrated graphically in Figure 1 below, an “educated populace” is the ultimate outcome of the effective dissemination and development of knowledge and wisdom, which is in turn the most important goal and result of effective learning. In the words of David Orr:

What will people need to know to live responsibly and well in a finite world? What skills, abilities, values, and character traits will be useful and / or necessary for the transition ahead? What does sustainability imply for technology? Politics? Community design? Social structures? Economics? Values? What is the appropriate balance between the sciences, the social sciences, and the humanities? And between intellect, spirit, and practice? What do all of these imply for the substance and process of education? In short, what does the dawning awareness of planetary limits and interrelatedness of all life have to do with the way we define, direct, and transmit knowledge? No single answer can, or should, be given to such a large question. It is possible only to propose measures by which answers might eventually be judged.²

This effective transmission and use of knowledge for societal benefit requires both basic literacy and knowledge of multiple literacies in relevant areas such as ecology, civics, art,

science, health, and multiculturalism. Thus, an educated populace would have a reasonable understanding about important issues that affect daily life, which in turn requires practical skills like the ability to understand the meaning of statistics, how the media present information, and how to make informed decisions when voting.

In 1997, the Organisation of Economic Co-operation and Development (OECD) initiated an interdisciplinary program to identify “key competencies” that contribute to a “well-functioning society” and that are “necessary for individuals to lead an overall successful life, and for society to face the challenges of the present and the future.”³

Key competencies are defined by the demands of modern life and conceptualized as contributing to a successful life and a well-functioning society, as expressed by universal values such as respect for human rights, integrated economic, environmental, and social development, and democratic processes. [...] Competent performance or effective action implies the mobilization of knowledge, cognitive and practical skills, as well as social and behavior components such as attitudes, emotions, and values and motivations.⁴

The OECD program identifies three criteria for competencies that are broad enough to be used in a variety of contexts. Competencies should: 1) contribute to highly valued outcomes at the individual and societal level; 2) be instrumental for meeting important, complex demands and challenges in a wide variety of contexts; 3) be important for all individuals.⁵ The OECD emphasizes that the specific nature of competencies in their application to particular conditions, times, and circumstances is shaped by cultural, situational, and other contextual factors.

In its background research, *GPIAtlantic* has used these OECD criteria to assess competencies in relation to multiple literacies, including basic literacy, science, ecology, health, nutrition, civics, arts, statistics, Indigenous knowledge, and the media. While not comprehensive or all-encompassing by any means, these eleven knowledge areas have been identified by analysts as at least representative of what an educated populace needs to know for its own wellbeing and that of future generations.

GPIAtlantic has also defined these OECD criteria more specifically using the “principled ground” proposed by Canadian philosopher John McMurtry. McMurtry’s main principled ground and criterion for an educated populace, which he has developed and suggested for specific application to the selection of education indicators for this study, can be applied to formal, nonformal, and informal education:⁶

The principled ground and criterion of education that has been proposed is: those processes of the society that enable learning which is not instrumental to a non-learning goal such as private profit, sectarian belief, or other ulterior purpose that does not enable a more inclusively coherent understanding of human and natural phenomena.⁷

In applying this principled ground to informal learning, McMurtry argues that the learning or lack of knowledge of Canadians in matters of gender, race, cultural tolerance, ecological awareness, corporate responsibility, and other dimensions of literacy can all be evaluated on the basis of this criterion:

All of these forms of understanding express educational attainment or lack of it insofar as they enable a more inclusively coherent understanding of human and natural phenomena. The same principle holds across all spheres, and allows us to include these very important forms of understanding as far as we are able in a consistent manner. For example, sexism or racism score very badly on the criterion of education, and [the principled ground] explains exactly why. Both are incoherent in principle and non-inclusive in what they take into account as fact and as value. The same is true of ecological or corporate irresponsibility. Consistent and exact principled grounds enable us to identify attainments, shortfalls, and trends across informal and formal education spheres as far as is logistically feasible. In all cases, the prior state of the sphere in question can provide a basic reference body from which to evaluate or measure an educated populace.⁸

Therefore, the basic criteria used to assess competencies in the various literacies explored by GPLAtlantic in its background research (including basic literacy, science, ecology, health, nutrition, civics, arts, culture, statistics, Indigenous knowledge, and the media), and in the few selected literacies presented in this summary report, are (1) that they “enable a more inclusively coherent understanding of human and natural phenomena,” as McMurtry suggests, and (2) that they “contribute to highly valued outcomes at the individual and societal level,” as the OECD recommends.

From the perspective presented above, an educated populace indicator framework should be able to track changes over time not only in the store of factual knowledge, but also in the values, attitudes, and wisdom of the populace. Sadly, those key dimensions of an educated populace are virtually absent from most conventional indicator systems. As well and with few exceptions, like basic literacy assessments, most conventional education indicators also provide very little information about learning *outcomes* or social *outcomes*, which are the key concern of GPLAtlantic in all its indicator work.

By contrast to the goals and principles outlined above, an extensive exploration of the literature in this field found that the conventional education indicators that currently exist to assess educational attainment are too limited, and that many key learning outcomes are not adequately represented. In addition, those indicators—focussing as they generally do on formal schooling—do not adequately account for the role and outcomes of nonformal and informal learning processes and contexts, including the roles of the family, community, and television, the Internet, and other media.

As well, the last two decades have seen a surge in education indicators related to economic policy objectives in an effort to assess whether formal education in particular is

contributing adequately to economic productivity and competitiveness in the global economy. But critics have argued that what is perhaps most problematic about this increased focus on the role of education in serving economic imperatives is that broader considerations, such as “the role of schooling in social justice, the inculcation of democratic values and the transmission of cultural values and forms of knowledge,” have become increasingly marginalized.⁹

A Special Study Panel on Education Indicators convened by the U.S. Department of Education in the early 1990s to review existing education indicator models and the criteria for indicator selection concluded that the common practice of relying on limited sets of conventional education indicators was “misguided” and did not “do justice to the complexity of the educational enterprise.”¹⁰ The Special Study Panel rejected the dominant ‘input-processes-output’ model, stating that this model was “flawed” and mistakenly “encouraged the view that the educational system produces ‘products’ by taking various raw materials (e.g. students and resources) and processing them in schools.”¹¹ This critique has also been echoed by UNESCO’s *Education for All* report, and by other experts in the field.

In sum, conventional indicators focus too narrowly on *outputs* of the formal education system that may be unrelated to desired learning and societal outcomes; they generally ignore informal and nonformal learning processes that may have a greater impact on learning outcomes than schooling; and they frequently send contradictory messages as noted in the examples discussed in the Introduction below.

Therefore, while we continue to measure what is quantifiable—graduation rates, test scores, drop out rates, financing—we may be losing sight of societal outcomes that might be less easily measured, but more meaningful in terms of measuring whether the populace is becoming more educated or not.

Based on three years of extensive research and exploration of data sources, the authors of this report strongly recommend the development of a new Canadian Knowledge Survey (CKS) that would indicate levels of knowledge and lifelong learning in the Canadian populace in the specific areas of ecological literacy, scientific literacy, arts literacy, health literacy, food and nutrition literacy, civic literacy, multicultural literacy, media literacy, Indigenous knowledge literacy, and statistical literacy. Administered regularly, the proposed new survey would assess whether or not knowledge in these areas is improving, deepening, and expanding. As such, its results would be of great interest to Statistics Canada and to educators, educational institutions, and policy audiences nationwide as well as to the general public. Such a survey would effectively constitute an important and highly practical outcome of this education research.

Presently, indicators of these broader literacies and knowledge areas beyond basic adult literacy are not systematically tracked in Canada, although these new directions are being explored within individual disciplines.

The indicators presented in this GPI Education Indicator Report for Nova Scotia, deal with only two of the key dimensions of an educated populace explored in the background research and reflected in the framework represented in Figure 1 of the Report. Those two dimensions are the formal education system (where most existing data currently exist) and multiple literacies (broadly conceived to encompass the knowledge required to enhance wellbeing). In the broader multiple literacy area, and in the absence of a Canadian Knowledge Survey as recommended above, the indicators that can be presented here are severely constrained by limited data availability. For that reason, GPIAtlantic's Education Report includes a far more extensive list of desirable indicators in that area for which data still need to be collected and developed. Further dimensions of an educated populace beyond these two areas also require development over time (see Framework in Figure 1 for those additional dimensions).

Another key caveat is that reliance on existing data sources in the formal education realm will necessarily produce a focus on indicators that are inputs (like financing and access), processes (like class size), or outputs (like graduation and drop out rates, and test results) rather than on indicators that are true learning outcomes. The formal education indicators presented in the GPI Education Indicator Report were selected from the dozens of indicators researched by GPIAtlantic in its background research based on the following substantive and technical criteria:

- 1) They provide information about a feature of the formal education system known to be linked with desired outcomes and in this way they potentially have predictive value;
- 2) They provide a benchmark for measuring progress by describing the educational system's performance in achieving a desired condition;
- 3) They reflect important values and aspirations for education,
- 4) They are valid and reliable, and
- 5) They have time series data available.

The remaining indicators deal with indicators reflecting the "literacy" of the Canadian or Nova Scotian populace. As noted above, literacy here is defined not only as basic adult literacy (reading, writing, and numeracy), but also as knowledge in areas like health, science, civics, culture, statistics, and ecology that contribute both to individual development and to effective social functioning and wellbeing. The multiple literacies explored in the background research are, therefore, much more in keeping with the basic approach of the GPI, and yet they are far more constrained by limited data availability. The indicators on literacy presented in the GPI Education Indicators Report focus on a few key areas for which at least some data, however sparse or inadequate, are available. Despite these data limitations, these indicators at least do focus on outcomes, and they also serve to demonstrate the further indicator development required in the future for other literacy components.

At the same time, there is no pretence that the indicators and results presented below adequately measure an 'educated populace' as defined above. To begin to move in that direction, a new Canadian Knowledge Survey as described above is a minimum essential

requirement. As well, further development is required in other spheres of the framework outlined in Figure 1, and in accord with the more comprehensive definition of an educated populace described above.

ENDNOTES

¹ United Nations Educational, Scientific, and Cultural Organization (UNESCO), *Educating for a Sustainable Future: A Transdisciplinary Vision for Concerted Action*, International Conference in Thessaloniki, December 9-12, 1997, 1998, accessed March 2005; available from <http://unesdoc.unesco.org/images/0011/001106/110686eo.pdf>. p. 18.

² Orr, David. W., *Ecological Literacy. Education and the Transition to a Postmodern World*, Albany: State University of New York Press, 1992. p. 133.

³ Rychen, D.S. and L.H. Salganik, *Definition and Selection of Competencies: Theoretical and Conceptual Foundations (DeSeCo). Summary of the Final Report: Key Competencies for a Successful Life and a Well-Functioning Society*, Organisation for Co-operation and Development (OECD), 2003, accessed January 2006; available from http://www.portal-stat.admin.ch/deseco/deseco_finalreport_summary.pdf. p. 2.

⁴ Ibid. pp. 2-3.

⁵ Ibid. p. 3. The OECD defined three categories of key competencies: interacting in socially heterogeneous groups; acting autonomously; and using tools interactively.

⁶ Formal education includes primary, secondary, and postsecondary schooling. Informal learning is the process of learning outside formal school settings: through friends, colleagues, or relatives; in a variety of places, such as the workplace, community, library, cultural events, and home; through a variety of activities, including leisure (such as reading books or using the Internet) and physical activities. Nonformal learning includes taught courses or lectures that do not lead to a formal qualification in the educational system. It can refer to courses taken for personal interest to enrich one's life or to courses taken to upgrade skills or otherwise contribute to employment-related initiatives.

⁷ McMurtry, John, Professor of Philosophy, University of Guelph, personal communication with Karen Hayward, reviewer comments, email correspondence, July 27 and August 23, 2006.

⁸ Ibid.

⁹ Smyth, John and Alastair Dow, "What's Wrong with Outcomes? Spotter Planes, Action Plans, and Steerage of the Educational Workplace," *British Journal of Sociology of Education*, vol. 19, no. 3, 1998: 291-303. p. 299.

¹⁰ Special Study Panel on Education Indicators, *Education Counts: An Indicator System to Monitor the Nation's Educational Health*, Washington, D.C.: National Centre for Education Statistics, 1991.

¹¹ Special Study Panel on Education Indicators, *Education Counts: An Indicator System to Monitor the Nation's Educational Health*, Washington, D.C.: National Centre for Education Statistics, 1991.