Measuring Lifelong Learning and its impact on Happiness–The Canadian paradigm

Abstract

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Lifelong learning is crucial to a country’s continued competitiveness, prosperity and social cohesion. Be it for the complex nature of lifelong learning or lack of resources and enthusiasm, no country has had a means of gauging the extent of lifelong learning within its population. Canada is the first country to develop an aggregate measure, the Composite Learning Index (CLI), which assesses the state of lifelong learning over time, for individual communities and across the country. A high CLI score means that a particular city or community possesses learning conditions that support economic and social well-being. The CLI results are quite reassuring regarding concerns on an index on lifelong learning that may reflect population density or wealth income. In fact, both wealthy and comparatively weaker communities achieve high scores on lifelong learning. Population density is by no means a destiny in lifelong learning. At the same time, the index shows that while Canadians receive a strong basic preparation in their school years, learning declines throughout adulthood. It is the aim of this paper to sketch upon the conceptual framework and the methodological development of this index because of its appealing feature to be a forerunner to a European counterpart and an example of “what gets measured gets managed”, one way or the other.

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1. Introduction

Lifelong learning is crucial to a country’s continued competitiveness, prosperity and social cohesion, particularly in the light of the aging population and growing skills shortage - acute problems in Europe and around the world. Be it for the complex nature of lifelong learning or lack of resources and enthusiasm, no country has had a means of gauging the extent of lifelong learning within its population. At the same time, in fields such as the economy or environment, composite indicators have been popular tools in presenting complex concepts by aggregating diverse sources of data to show trends over time, or versus other multidimensional phenomena. Yet, lifelong learning is the product of many decisions, policies and individual choices and cannot be addressed by a single ministry or jurisdiction. That is why lifelong learning, when measured, would need to be done at a local rather than at a country level.

In spite of academic resistances to a narrow definition of lifelong learning, we would be more in favour of an empirical exploration of lifelong learning across different societies and contexts, something along the lines of Aitcheson (2003, p.165): “Lifelong education is a comprehensive and visionary concept which includes formal, non-formal and informal learning extended throughout the lifespan of an individual to attain the fullest possible development in personal, social and vocational and professional life. ... A key purpose of lifelong learning is democratic citizenship, connecting individuals and groups to the structures of social, political and economic activity”.

The main question is how a concept such as lifelong learning can be measured. Countries around the world have identified lifelong learning as a strategic priority, but Canada is the first country to develop an index that assesses the state of lifelong learning over time, for individual communities and across the country. The Composite Learning Index (CLI) is developed by the Canadian Council on Learning since 2006.

In the following, Section 2 describes the conceptual framework for the Composite Learning Index, the indicators included and the four-pillar structure. Section 3 goes into methodological details, as necessary as needed but no further than that, on the overall aggregation procedure of the indicators information content. Section 4 discusses selected
results of the index. Finally, Section 5 concludes with considerations on the Composite Learning Index and its potential for a being a forerunner to a European counterpart.

2. Conceptual framework for lifelong learning

Lifelong learning is the concept that “It's never too soon or too late for learning”, and it is of attitudinal nature. It is a process that involves the development of knowledge, skills and values throughout all stages of a person’s life—from early childhood through adulthood. As well, learning is not just an intellectual process, but one that involves all areas of life, including a person’s role in the community, performance in the workplace, personal development and physical well-being. As a form of pedagogy, lifelong learning is often accomplished through distance learning or e-learning, continuing education, homeschooling or correspondence courses. It also includes postgraduate programs for those who want to improve their qualification, bring their skills up to date or retrain for a new line of work. Internal corporate training has similar goals, with the concept of lifelong learning used by organisations to promote a more dynamic employee base, better able to react in an agile manner to a rapidly changing climate. In later life, especially in retirement, continued learning takes diverse forms, crossing traditional academic bounds and including recreational activities.

The main reason for societies’ increasing interest on lifelong education is the acceleration of scientific and technological progress. Despite the increased duration of primary, secondary and university education (14-18 years depending on the country), the knowledge and skills acquired during the childhood years are usually not sufficient for a professional career spanning four decades or more.

In an attempt to reflect, in a structured and coherent way, the many aspects of lifelong learning, a conceptual framework was developed by the Canadian Council on Learning (Cartwright et al., 2006). The framework builds on the recommendations of UNESCO's International Commission on Education for the Twenty-first Century (Delors et al, 1996), on studies carried out by OECD, and on the goals of education as defined by ministries of education across Canada. It is a four-pillar framework that recognizes the broad scope of lifelong learning—at home, in the classroom, at work and in the community. The four learning pillars identified are:
(a) Learning to Know (literacy, numeracy, critical thinking and general knowledge),
(b) Learning to Do (acquisition of applied skills that are often linked to occupational success, such as computer training, managerial training and apprenticeships),
(c) Learning to Live Together (developing values of respect and concern for others, fostering social and interpersonal skills, and an appreciation of the diversity of Canadians),
(d) Learning to Be (development of a person’s body, mind and spirit; skills in this area include personal discovery and creativity, and can be acquired through reading, use of the internet and activities such as sports and the arts.).

The framework encompasses several indicators of lifelong learning on an annual basis (Table 1). These indicators, taken from reliable Canadian surveys or OECD statistical databases and surveys, reflect a wide range of learning activities, including literacy skills, postsecondary attainment, job-related training and community engagement through volunteering, sports or cultural activities, among others. By drawing attention to the specific learning indicators and types of learning, the framework also provides an impetus to explore a variety of issues related to learning in Canada.

Table 1. Indicators and pillar-structure for conceptualising lifelong learning

<table>
<thead>
<tr>
<th>Learning to Know</th>
<th>Learning to Do</th>
<th>Learning to Live Together</th>
<th>Learning to Be</th>
</tr>
</thead>
<tbody>
<tr>
<td>(student skills, attendance in formal education, access to learning institutions)</td>
<td>(job-related training, workplace training, access to vocational training)</td>
<td>(citizen involvement &amp; engagement, access to community services)</td>
<td>(use of cultural resources, access to cultural resources)</td>
</tr>
<tr>
<td>1. Mean reading score</td>
<td>1. Job-related training participation rate</td>
<td>1. Percentage reporting contributions to charity</td>
<td>1. Percentage reporting spending on internet services</td>
</tr>
<tr>
<td>(15-year old youth, PISA study)</td>
<td>(% of adults aged 25-64)</td>
<td>(% of households)</td>
<td>(% of households)</td>
</tr>
<tr>
<td>2. Mean math score</td>
<td>2. Proportion of employers offering training</td>
<td>2. Volunteer Rate</td>
<td>2. Percentage reporting spending on reading materials</td>
</tr>
<tr>
<td>(15-year old youth, PISA study)</td>
<td>(any type of classroom or workplace training)</td>
<td>(% of Canadians engaged in unpaid activities as part of a group or organization)</td>
<td>(% of households)</td>
</tr>
<tr>
<td>(15-year old youth,</td>
<td>(vocational schools,</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
During the development of the four-pillar framework, great emphasis was given in identifying potential social and economic outcomes that can be affected by fluctuations in learning conditions. Four societal (adult literacy, population health, voters’ participation, child development) and two economic (income, unemployment rate) outcomes of learning were selected to accompany the lifelong learning framework (Table 2). Adult literacy refers to a spectrum of skills—including reading and writing, document literacy, numeracy, and problem solving—that are critical for Canadians to succeed in life. Research has shown that adults with low levels of literacy have more difficulty in finding a job, and those who do find a job are much more likely to earn a lower wage and are less likely to receive employer-funded training to enhance their skills (Canadian Council on Learning 2007, Chapter 4). On the other hand, high levels of literacy are strongly correlated with high participation in community and social activities, greater civic engagement, and improved health. Early childhood development is defined as the first five years of a child’s life and, as such, is a critical time for learning. The skills gained at this time set the stage for success throughout the rest of a person’s life (Doherty
Voter participation gives a good indication for overall civic engagement. In order for democratic countries to function well, their citizens must be both informed and engaged (Canadian Council on Learning 2006). Improved population health is shown to be positively related to increased learning. Higher levels of education correspond to better general health and increased life expectancy (Wolfe and Haveman 2001). This is because people with more education are less likely to drink heavily, smoke or live in polluted areas and are more inclined to exercise and eat better (Kenkel 1991). OECD studies show that individuals with the skills and knowledge necessary to keep pace with labour-market requirements are less likely to be unemployed (OECD, 2005). Income level, or the earnings of individuals, could be seen as the “rate of return” on investments in learning. A recent study by the OECD shows that individuals who are better educated have greater opportunities to be employed and have better “rates of return” on investments in learning (OECD, 2001). Another international study indicates that one extra year of education is associated with, on average, 5% to 15% higher wages (Krueger and Lindahl, 1999).

Table 2. Selected social and economic outcomes of lifelong learning

<table>
<thead>
<tr>
<th>Social Outcomes</th>
<th>Economic Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Adult Literacy (mean prose score)</td>
<td>1. Unemployment rate</td>
</tr>
<tr>
<td>2. Population health</td>
<td>2. Average household income</td>
</tr>
<tr>
<td>3. Voters’ Participation</td>
<td></td>
</tr>
<tr>
<td>4. Child development and school readiness</td>
<td></td>
</tr>
</tbody>
</table>

3. Building the lifelong learning index

Squeezing any complex system (e.g. lifelong learning conditions) into a single metric, such as an index, faces plenty of empirical challenges (e.g. data quality, indicator selection, indicators importance, etc.) (Eakin and Luers 2006). However, if done correctly it yields a powerful comparative assessment tool capable of capturing societal conditions in a given geographic unit that drive people’s lifelong learning efforts. It can allow for comparisons across space and time i.e. provide the technical opportunity to monitor change, identify problems, contribute to priority-setting and policy formulation (von
Schirnding 2002). Thus, an index in the context of lifelong learning can generate new information that would otherwise not be visible (Eyles and Furgal 2002).

The selection of an appropriate methodology is central to any exercise attempting to summarize the interaction of the indicators in an index. The literature review in the Handbook, produced by the Joint Research Centre of the European Commission and the OECD (Nardo et al., 2005), shows that some of the methodologies are suited (more or less) to the purposes for which they are employed.

Upon the selection of the 24 determinant lifelong learning indicators and their grouping into four pillars of learning, based on broad expert consultation and literature reviews, the aggregation process of the 2007 Composite Learning Index is entirely based on statistical analysis that aimed to bypass arbitrary decisions on the weighting issue in particular. The CLI methodological approach involves a series of data treatment steps. In brief:

1. Directional adjustment of indicators, so that higher values point to higher levels of lifelong learning (e.g. for all *access*-type indicators, and for *high school drop out rate*).
2. Standardisation of the indicators (z-scores) by subtracting the mean and dividing by the standard deviation.
3. Extraction of orthogonal components within each pillar using Factor Analysis.
4. Extraction of a single (common) factor from the six outcomes of learning (we abbreviate it as Economic and Social Well-Being Index).
5. Estimation of (best-fit linear) regression weights between each pillar’s retained Factor scores and the Economic and Social Well-Being Index (dependant variable).
6. Calculation of pillar scores as weighted averages of the Factor scores and the respective regression-derived weights.
7. Standardisation of the pillar scores (z-scores).
8. Extraction of four orthogonal Principal Components from the four pillars of learning.
9. Estimation of (best-fit linear) regression weights between the four Principal Components and the Economic and Social Well-Being Index.
Calculation of CLI scores as weighted averages of the (orthogonal) pillar scores and the regression-derived weights.

Final scaling of the CLI scores for ease of communication.

The CLI is not based on an equal weighting scheme for the following reason. Whilst there is a strong basis for the theoretical involvement of each indicator in lifelong learning, there is no reason to suggest that their roles are equal. Instead, the relevance of each indicator to lifelong learning was estimated statistically employing in tandem Factor Analysis and Multivariate Regression Analysis. More specifically, factor analysis was applied to reduce, where possible, the set of observed indicators to a smaller number of unobserved factors that have a common causation influence. These unobserved “factors” account for the correlation among the observed indicators. Finally, the multivariate regression of the orthogonal factors within each pillar (independent variables) and of the four pillars versus the Economic and Social Well-Being Index (dependant variable) provided the weights that maximise the amount of variance of the Economic and Social Well-Being Index scores that is explained by each pillar of learning and by the overall CLI. Given this weighting and aggregation scheme, each learning indicator has a different degree of relevance to a community’s overall social and economic well-being, and the CLI is designed to reflect this, by connecting the dots between a community’s learning conditions on the one side, and its social and economic well-being, or outcomes, on the other.

Despite the reasoning behind these methodological choices, each of the steps (2) to (10) above can have an impact on the CLI scores. A detailed report on the impact of the methodological choices on the final CLI scores and ranks is provided elsewhere (Saisana, 2007). It is the aim of this paper to focus on some of the messages that could be conveyed by a tool such as the Composite Learning Index.

4. Results

The Composite Learning Index results provide fertile ground for the analysis of lifelong learning performance in Canada. The CLI numeric scores represent the state of learning in cities, regions and communities across Canada. A high CLI score means that a
particular city or community possesses learning conditions that support economic and social success. Although not the sole factor contributing to such success, lifelong learning is increasingly important in the global, knowledge-driven economy. While a community will score higher than some and lower than others, the purpose of this index is not to identify winners and losers. Instead, the CLI is intended to generate a discussion about what factors contribute to the best possible learning environment. After all, one of the keys to successful lifelong learning is the ability to cooperate with and learn from others.

4.1 Exceptional behaviour in overall scores and indicators

The CLI shows that there is no ideal community, among the more than 4500, excelling in all indicators of learning in Canada, but that there is space for improvement at all levels of lifelong learning. Interestingly, the top CLI scores do not belong to the communities of a single province. Several communities mostly from Ontario, Saskatchewan and Alberta share a pie in the “good examples cake” of Canadian lifelong learning. On the other hand, neither do the communities that lag behind come from a single province.

Given that the aim of this entire analysis is not to name and shame, but rather to spot the light on where things go well and where things could be improved, we will discuss the results accordingly.

Canadian communities that have a high performance in the overall CLI have generally high performance in all four pillars of learning. The reverse, however, is not necessarily observed. To see this more clearly, we grouped the communities in terms of their percentile rank into the four quartiles of the CLI and each pillar (Table 3). Exceptional behaviour is captured by non-zero numbers in the upper right and low left part in each sub-table, where communities have top CLI performance but low performance in one of the pillars, or vice versa. Furthermore, a symmetrical behaviour with no surprises would imply that the numbers in the main diagonal of each sub-table are the highest in the row. As we suspected, the map of the Canadian communities’ performance in lifelong learning has several surprises to reveal.

In Learning to Know, 14.6% of the communities have top 25% performance both in the overall CLI and in this pillar. On the other end, we find 9.1% of Canadian communities with bottom 25% performance in both the overall CLI and the Learning to
Know; the remaining 15.9%, which represent the majority of the bottom 25% performers in Learning to Know, invest in the other pillars of learning and thus improve their overall CLI level. Surprisingly, 11 communities (0.2%), all from the Saskatchewan province, have high overall CLI performance but particularly low level in Learning to Know. However, these communities are particularly strong in the Learning to Be pillar and have good performance in Learning to Do and Live together. On the other end, 58 communities (1.3%) from Quebec have bottom 25% CLI performance but top 25% performance in Learning to Know. Their challenges are in all other three pillars of learning, which explains their low overall performance. The mid-range performers in this pillar also have a medium overall performance. As for the Learning to Do pillar, there are peculiarities to report and the level of performance follows that of the overall CLI. The Learning to Live Together pillar has a few exceptions to reveal. Six communities (0.1%) are on top of the CLI ladder, but they are particularly weak in Learning to Live together. These communities do not belong to a single province but are found in Ontario, Alberta and British Columbia. Mirror pattern is also found in six communities from New Brunswick, Quebec and Saskatchewan, where weak overall CLI performance is coupled to a top performance in Learning to Live together. Finally, in Learning to Be, there are no surprises, and the pattern is as expected: high performers in this pillar have high overall performance, and so forth. Similar pattern was found previously for the Learning to Do pillar. However, this pillar reveals a further message: top CLI performance is achieved almost exclusively by communities (21.7%) with top performance in Learning to Be, because communities that are strong in Learning to Be are strong in at least two pillars of learning. This was not the case for any of the other three pillars of learning.
Table 3. Comparison of the four quartiles (percentile rank) of CLI versus the pillars of learning.

<table>
<thead>
<tr>
<th>Learning to Know</th>
<th>Composite Learning Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom25%</td>
<td>9.1</td>
</tr>
<tr>
<td>25-50%</td>
<td>8.0</td>
</tr>
<tr>
<td>50-75%</td>
<td>6.7</td>
</tr>
<tr>
<td>Top25%</td>
<td>1.3</td>
</tr>
<tr>
<td>Learning to Do</td>
<td></td>
</tr>
<tr>
<td>Bottom25%</td>
<td>21.0</td>
</tr>
<tr>
<td>25-50%</td>
<td>3.8</td>
</tr>
<tr>
<td>50-75%</td>
<td>0.2</td>
</tr>
<tr>
<td>Top25%</td>
<td>0.0</td>
</tr>
<tr>
<td>Learning to Live Together</td>
<td></td>
</tr>
<tr>
<td>Bottom25%</td>
<td>16.0</td>
</tr>
<tr>
<td>25-50%</td>
<td>7.2</td>
</tr>
<tr>
<td>50-75%</td>
<td>1.6</td>
</tr>
<tr>
<td>Top25%</td>
<td>0.1</td>
</tr>
<tr>
<td>Learning to Be</td>
<td></td>
</tr>
<tr>
<td>Bottom25%</td>
<td>19.8</td>
</tr>
<tr>
<td>25-50%</td>
<td>5.2</td>
</tr>
<tr>
<td>50-75%</td>
<td>0.1</td>
</tr>
<tr>
<td>Top25%</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Note: Numbers indicate the proportion of Canadian communities (n = 4576) that belong to a given combination of quartiles.

4.2 Learning scores & Economic and Social outcomes

The CLI was built bearing in mind both the inputs of learning and the economic and social benefits of learning, such as income, employability, population health, civic engagement, literacy, child development and school readiness. These outcomes are often perceived as components of the well-being of a society and are used to study the link between lifelong learning, captured by the CLI, and a society’s economic and social welfare.

Figure 1 presents the relationship between the CLI and the Economic and Social Well-Being Index. The results show a significant and high linear relationship between lifelong learning and the economic and social well-being (r = 0.835, n = 4576) in Canada. At the lower end of well-being, about 110 communities score less than 50 points in the ESWBI and have low performance in the overall CLI. All these communities belong to
two Provinces, Newfoundland & Labrador and Quebec. Mid-way, there are communities that despite their high level of learning outcomes do not perform as high as expected in the CLI, or the opposite. Although correlation does not imply causality, and the latter cannot be tested due to lack of timeseries data, these results are consistent with the theory that lifelong learning translates into a more efficient use of an economy’s human resources, in terms of employment, civil engagement, adult literacy and thus affects the overall productivity and economic performance in Canada. The high number of communities that was used for this analysis (\( n = 4576 \)) supports further this argument.

Figure 1. Relationship between the Composite Learning Index and the Economic and Social Well-Being Index in Canada.

![Composite Learning Index vs Economic and Social Well-Being Index](image.png)

A paired-comparison of communities performance in CLI and in ESWBI shows that more than 22% of the top 25% CLI performers have top 25% performance in the combined index of the economic and social outcomes of learning (Table 4). On the other
end, only half (12.4%) of the bottom25% performers in the CLI are bottom25% performers in the ESWBI. The remaining 12.1% is split, almost exclusively, between the 25-50% and 50-75% performers of ESWBI. This implies that very high performance in the CLI is a sufficient, though not necessary, condition for high performance in the ESWBI. In fact, a couple of communities in Canada, Sheffield (in New Brunswick) and Longue-Pointe-de-Mingan (in Quebec) are relatively weak in all pillars of learning and in the overall CLI, but they do very well economically and socially. This shows that these two communities have other means of achieving learning success, which is not entirely captured by the learning indicators included in the conceptual framework.

### Table 4. Comparison of the four quartiles (percentile rank) of CLI versus the economic and social outcomes of learning (ESWBI).

<table>
<thead>
<tr>
<th></th>
<th>CLI (Composite Learning Index)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bottom25%</td>
<td>25-50%</td>
</tr>
<tr>
<td>ESWBI</td>
<td>Bottom25%</td>
<td>12.4</td>
</tr>
<tr>
<td></td>
<td>25-50%</td>
<td>6.3</td>
</tr>
<tr>
<td></td>
<td>50-75%</td>
<td>6.3</td>
</tr>
<tr>
<td></td>
<td>Top25%</td>
<td>0.1</td>
</tr>
</tbody>
</table>

A last remark before concluding this analysis on the link between learning indicators and economic and social outcomes of learning. Figure 2 presents the scatterplot of the average household income levels versus the Composite Learning Index. The pattern is evidently non-linear, although it is generally increasing. It is interesting to note that there are about 26 communities with low average income (less than 35000 CD) but with very good performance in the CLI (in the range 70-77). This result is encouraging, as it confirms the CLI’s objective not to reflect a lifelong learning situation in Canada that is mainly driven by monetary factors. The widest spread of CLI scores is observed at annual household income of 53000 CD. Communities at this income level score from as low as 53 to as high as 88 in the CLI. This provides a further proof that the CLI does not merely reflect income, but captures other aspects of the quality of life, represented by the combined index of economic and social benefits.
Figure 2. Scatterplot between the Composite Learning Index and the average household income (one of the selected outcomes of learning)

4.3. CLI and population density

With respect to lifelong learning issues, a region with high population density equates to more people and eventual difficulties in learning-related infrastructure capacity. However, most lifelong learning indicators in the CLI framework are directly related to people’s behaviour, e.g. spending on recreation facilities, museums,
participation in clubs, volunteer rate. Hence, “size”, though an essential characteristic of lifelong learning when it comes to infrastructural issues, it should not be an issue in the present context. In fact, the correlation between the CLI scores and the population density reveals a very weak association between the two, indicating that density is not a destiny in Lifelong Learning (Figure 3).

**Figure 3. Relationship between the Composite Learning Index and the population density in Canada**

![Figure 3](image)

4.4. **CLI & Variability**

The Canadian communities that are situated in the high or mid CLI range tend to score uniformly high in the various indicators of learning. In other words, these communities display a relatively low variability in the contribution of the individual indicators to the overall CLI. Variability is defined by the coefficient of variation. The variability increases as one moves down the list in decreasing order of CLI scores. This scissors pattern is evident, yet not pronounced, in Figure 4. The correlation coefficient between the CLI and the coefficient of variation series is equal to -0.662, indicating a moderate
degree of reverse association between CLI scores and the variability in the contribution of the basic indicators.

For comparison purposes, in the case of Trade and Development Index (UNCTD, 2005) that is based on eleven components and developed for 110 countries, the correlation coefficient between the index score and the coefficients of variation series is equal to -0.93. An implication of this finding is that while changes in the CLI scores over time could be regarded as a quantitative indication of trends in lifelong learning performance in Canada, those in respect of the variability could be seen as qualitative changes. Reducing even further the variability in the contribution of the indicators should be among the objectives of lifelong learning policies and strategies in Canada. To be successful, a Canadian community must put a simultaneous thrust on multiple goals within a coherent lifelong learning strategy, while emphasizing reduction of the existing gaps in areas where performance is lagging. As the case of a few exceptions we identified in Table 3 -with very low overall CLI performance but very high performance in only one or two dimensions of lifelong learning- indicates, a disproportionate emphasis on a limited number of objectives without concomitant focus on factors that contribute to lifelong learning can yield only marginal results. By demonstrating significant inter-community differences in the values of the coefficient of variation, the analysis points to the importance of community-specific approaches to lifelong learning strategies. At the same time, though, there is no way that these variations will be reduced without coherence between lifelong learning policy and rule making, on the one hand, and lifelong learning strategies and partnership and solidarity, on the other.
4.5. CLI in time

In 2007, Canada’s score in lifelong learning is 76, compared to the national benchmark score of 73 in 2006. However, because this is only the second release of the Composite Learning Index it is too early to identify trends over time—especially when measuring a complex issue such as learning. Nonetheless, there have been some changes in each of the four broad learning pillars that are worth highlighting (Figure 5):

• The largest change across Canada is in the score for the Learning to Be pillar, up from 5.0 to 5.4. This change is driven mainly by greater proportions of households reporting spending on internet services. Kelowna, Quebec and Charlottetown are the major cities with the most significant increases in this pillar.

• Canada’s score for the Learning to Know pillar has not changed much compared to 2006, up from 5.0 to 5.1. This change is mainly driven by greater proportions of adults with completed university degrees and decreases in high-school dropout rates.
Charlottetown, Halifax, Fredericton, and Saint John are the major cities with the most significant increases in this pillar.

- Across Canada the Learning to Do pillar score has not changed much compared to 2006, up from 5.0 to 5.2. This change is driven mainly by the increasing availability of workplace training. Ottawa, Calgary, Edmonton, Quebec, and Montreal are the major cities with the most significant increases in this pillar.

- Canada’s challenges seem to be within the Learning to Live Together pillar, the only pillar score lower than the benchmark established in 2006, down from 5.0 to 4.8. This difference is driven mainly by smaller proportions of households who reported spending on clubs and other organizations. But not every community decreased. Kelowna and Sudbury are the major cities with the most significant increases in this pillar.

Large cities across Canada are generally above the national average in all areas of learning, but particularly in the Learning to Know and Learning to Do pillars. Smaller cities and towns are generally at the national average across all areas of learning, and rural communities are generally below the national average across all areas of learning. However, rural areas are stronger in their pillar scores for Learning to Be and Learning to Live Together, when compared to their Learning to Know and Learning to Do scores.

**Figure 5. Composite Learning Index and its pillars – Progress in time**
5. Conclusions

Learning is much more than academics and the Composite Learning Index (CLI) provides a comprehensive vision of learning. Made up of a suite of indicators, the index takes into account factors as diverse as access to learning institutions, services and resources, availability of training, learning through sports and culture, volunteering and literacy to compile a profile of communities and, ultimately, the country. The indicators are grouped around four pillars originally identified by UNESCO. The CLI allows for the setting of national benchmarks in lifelong learning, and for further international comparisons of the underlying indicators of learning. At the same time, it allows for comparisons with other indicators, such as indicators related to aspects of well-being. Health, for example, is strongly linked to learning: better-educated people are healthier. In addition, the CLI highlights the link between learning and social cohesion and civic engagement. While many in education, health and other fields may have accepted the new paradigms of lifelong learning, the Composite Learning Index will open up these ideas and dialogues to a wider population.

The CLI was created not only to allow Canadians analyze and promote the concept of lifelong learning, but to give Canadian communities a powerful new way to envision their assets and challenges in all areas of learning and to link conditions of learning to important quality of life issues. The index is itself a learning tool. It is meant to serve as a starting point for analysis and discussion, to get people thinking about different ways of learning, how they can learn more effectively and how they can learn from other communities across the country.

As a tool for informing policy decisions, the Composite Learning Index facilitates monitoring of lifelong learning from both a holistic and specific perspectives. Although one purpose of a composite is to summarize, the CLI also acts as a gateway into the detailed set of indicators. In addition to the overall composite, there is also a sub-level composite for each pillar. These pillar scores are further broken down into standardized and original values for each indicator. Using this reporting framework, a community may easily see the strengths and deficits resulting in its unique CLI score and identify policy targets that would be most efficacious in improving overall well-being in the community.
The CLI results are quite reassuring regarding concerns on a composite indicator on lifelong learning that merely reflects the population density or the wealth income. In fact, high scores on lifelong learning are achieved by some of the wealthier communities as well as some of the comparatively weaker economies. Also, population density is not destiny in lifelong learning. Although CLI scores for rural communities were on average lower than for urban areas, some rural areas scored higher than some urban areas. The index has further shed light on the conclusion that while Canadians receive a strong basic preparation in their school years, learning declines throughout adulthood. This could very much be the case for Europe, but it has, somehow to be measured first.

References


UNCTD (2005) Trade and Development Index, Developing countries in international trade, United Nations Conference on Trade and Development.
