

Date: July 22, 2008

Contract No. 9073-07-0023/00

**Navigating the Labour Market:  
Final Report**

**Submitted To:**

**Human Resources and Social Development Canada**

**Submitted By:**

**Social Research and Demonstration Corporation**

**With Contributions From:**

Sheila Currie  
Michael Dowie  
Claudia Nicholson  
Philip Oreopoulos  
Jean-Pierre Voyer



# Table of Contents

	<b>Page</b>
<b>1.0 Introduction and Project Objectives.....</b>	<b>1</b>
<b>2.0 Project Design and Implementation.....</b>	<b>3</b>
2.1 Project design.....	3
2.2 Research sessions.....	3
2.3 The Labour Market Information (LMI) Intervention.....	4
2.4 The Labour Market Knowledge (LMK) Survey.....	4
2.5 The Canadian Literacy Evaluation (CLE) .....	5
2.6 The NLM participant recruitment and sample.....	5
2.7 Characteristics of the NLM registrants .....	6
2.8 Characteristics of the NLM sample .....	6
2.9 Preparing for analysis .....	6
2.9.1 Merging the datasets .....	8
2.9.2 Scoring the CLE.....	8
2.9.3 Scoring the Labour Market Knowledge Survey .....	9
2.10 Assessing the random assignment process .....	9
2.11 Measuring the relationship between literacy and labour market knowledge.....	11
2.12 Measuring the impact of LMI on labour market knowledge .....	11
2.12.1 Adjusted impacts.....	11
<b>3.0 NLM Findings .....</b>	<b>13</b>
3.1 The relationship between literacy and labour market knowledge .....	13
3.2 The impact of LMI on labour market knowledge.....	16
3.2.1 Impacts on knowledge .....	17
3.2.2 Impacts on competencies .....	18
3.2.3 Impacts on perceptions .....	19
3.3 Subgroup analysis of LMI impacts: high – low literacy.....	19
<b>4.0 Limitations of Analysis.....</b>	<b>23</b>
<b>5.0 Summary and Conclusions .....</b>	<b>25</b>
<b>6.0 Policy Relevance and Further Research.....</b>	<b>27</b>

## Appendices

1. NLM Operations flowchart
2. NLM Registration System screenshots
3. Detailed impact results
4. LMK Survey scoring key
5. Multivariate analysis
6. LMK distribution by literacy level
7. Relationship between labour market knowledge and literacy by prose, document and quantitative literacy



## 1.0 Introduction and Project Objectives

This report describes the background and research objectives of the Navigating the Labour Market (NLM) research project. NLM had two key objectives:

- 1) To probe the extent and distribution of labour market knowledge among young Canadians of varying literacy levels; for example, do people with high literacy have more and/or better labour market knowledge? In other words, what is the relationship between literacy and labour market knowledge? (Research Question #1)
- 2) To assess the impact of a short labour market information intervention on labour market knowledge (Research Question #2)

The importance of using labour market information (LMI) effectively has increased over the past couple of decades because of the growing demand for an educated workforce. More Canadians are faced with training and education decisions as the skills required by employers are increasing, and the mix of skills is changing in response to changes in the Canadian industrial structure. More than ever, training and education decisions have to be informed by a good understanding of the labour market. Policymakers and practitioners seek to learn more about how to connect Canadians with the LMI that can assist them with these decisions.

Very little research exists on the link between literacy and labour market knowledge. This is an important relationship; any labour market information that is provided must be accessed and applied for it to be of value. It is not enough to be concerned about how much and what kind of information is provided — how information is received and used must also be a subject of inquiry. Participants in an expert symposium on LMI recently identified a series of target groups — including people with literacy or numeracy barriers — as worthy of research on how they process and understand LMI and use it effectively.<sup>1</sup> Thus the NLM project began an exploration of the role literacy may play in labour market knowledge, as well as testing the effectiveness of LMI in increasing labour market knowledge.

---

<sup>1</sup> SRDC, (October, 2007). Improving Labour Market Information to Help Canadians Make Better-Informed Decisions, Report from a the HRSDC/FLMM Symposium on Measuring the Impacts of Labour Market Information



## **2.0 Project Design and Implementation**

### **2.1 PROJECT DESIGN**

This project employed both experimental and non-experimental research methods.

The project enrolled 775 young Canadians between the ages of 18 and 30. Of these, over 600 went on to attend an NLM research session where they were divided into two groups using a random assignment procedure. One group completed a literacy test and a Labour Market Knowledge Survey. Their scores for the literacy test and the survey were analyzed to study the link between literacy and labour market knowledge. The other group received a labour market information (LMI) intervention prior to completing the same Labour Market Knowledge Survey and literacy test as the other group. The scores of this second group on the Labour Market Knowledge Survey were compared to those of the other group. Differences in the responses of the two groups can be attributed to receiving the LMI intervention, assuming the random assignment procedure was successful in constructing two comparable groups.

Project requirements stipulated that participants take all tests and complete the knowledge survey in person, thus a classroom situation was selected as the appropriate setting. There were several benefits to a classroom setting for this study. These included having a controlled environment in which participants were monitored as they completed the literacy test, observing first-hand the participants' reactions to the activities, and being on-site to assist with technical difficulties. In general, participants were observed to be attentive and engaged in the NLM activities. This generated confidence in the quality of the resulting data.

A detailed account of the implementation of NLM including participant recruitment and the running the NLM activities is presented in *Navigating the Labour Market: Technical Report, March 2008*. A summary of the key activities is provided in the remainder of this section.

### **2.2 RESEARCH SESSIONS**

The NLM research sessions were held at rented computer labs in three Ottawa locations: Algonquin College, Academy of Learning, and Everest College. SRDC staff monitored the sessions by signing in participants, reviewing the participation consent forms and providing lab instructions, assisting with any technical difficulties participants encountered and paying incentives. While labs were booked for three hours, most participants were finished in under two hours.

Lab activities included:

- An LMI slideshow for the program group and computer games for the control group (about 15 minutes in duration for both groups)
- The Labour Market Knowledge Survey (about 20-25 minutes in duration).
- The Canadian Literacy Evaluation (ranging from 30 to 75 minutes in duration).

After registration at the lab, participants were instructed to be seated at a terminal and enter a code they were provided on their consent form. Once the code was entered, the first activity commenced: either the LMI slideshow or the computer games. After about 15 minutes — the length of time required for the LMI slideshow — each computer automatically switched to the labour market survey. Participants completed the survey at their own pace, typically about 20-25 minutes. Upon completing the survey, each computer automatically directed participants to the literacy assessment. The participants were instructed to raise their hands at the literacy test results page so that an SRDC classroom monitor could verify that their data had been uploaded (simply by seeing this page) and initial their consent form. Initialled forms were brought to the sign-in desk for payment of the \$75 incentive.

During the session, monitors circulated the room to offer calculators, pencils and paper for use during the literacy assessment, and to help with technical issues.

## **2.3 THE LABOUR MARKET INFORMATION (LMI) INTERVENTION**

HRSDC prepared a draft PowerPoint slideshow that included labour market information at national, provincial and local levels. It included quick facts, information about current trends, and four case illustrations of the use of labour market information. SRDC assisted in finalizing the content and format of the draft presentation, adding animation and time delays and then transforming it into movie format so that participants would not have the capability of clicking through the slides without adequate time for reading and reflection. The slideshow length, once fixed into movie format, was nearly 16 minutes. No technical problems were encountered with the slideshow in the classroom sessions.

## **2.4 THE LABOUR MARKET KNOWLEDGE (LMK) SURVEY**

The survey of labour market knowledge was developed by SRDC and was designed to cover 4 domains:

- 1) **KNOWLEDGE:** a series of questions to test awareness of local and national labour markets.
- 2) **COMPETENCIES:** a set of questions to test participants' ability to make use of labour market information in a productive manner; for example, the ability to adopt strategies for job search, and application of available tools and resources.
- 3) **PERCEPTIONS:** Participants' views of the labour market and education.
- 4) **ATTITUDES:** Participants' ways of thinking about their own labour market abilities.

Some questions in the survey were directly tied to the content of the LMI slideshow, while others required participants to contextualize the information in the slideshow to obtain correct answers. Those in the perceptions and attitudes domains tended to be indirectly related to the content of the LMI slide show, yet relevant for profiling labour market knowledge.



Participants' overall labour market knowledge was rated "high" or "low" based on their scores in relation to the median score of the sample.

## **2.5 THE CANADIAN LITERACY EVALUATION (CLE)**

The Canadian Literacy Evaluation (CLE) — a web-based version of the widely-used International Adult Literacy Survey (IALS) assessment — was used to gauge literacy. The Locator version of the CLE was used for NLM. The Locator is a shorter instrument which developers estimate takes 50 to 60 minutes to complete<sup>2</sup>. It was selected because it was felt that the full-length version in tandem with a Labour Market Knowledge Survey and an LMI intervention would cause excessive respondent burden and potentially lower data quality. While the Locator version suited the timeframe for NLM, it does not produce literacy scores. Rather, it produces results that locate individuals at "Level 1, 2 or 3+" for each of three areas of literacy: prose, document, and quantitative. Level 3 is generally considered to be the minimum proficiency level required for success in knowledge-based societies. Therefore, for NLM, individuals who scored at levels 1 and 2 were considered to have low literacy and individuals who scored at level 3+ were considered to have 'high' literacy.

SRDC combined the results of the literacy tests and the Labour Market Knowledge Survey to create a typology of the literacy-labour market knowledge relationship to answer Research Question #1.

## **2.6 THE NLM PARTICIPANT RECRUITMENT AND SAMPLE**

The sample size target for NLM was 600 young Canadians between the ages of 18 and 30, including students, some who were working and some unemployed. Participants were recruited using a convenience sampling strategy requiring outreach through a variety of means:

- Posters displayed and brochures distributed at local colleges, vocational institutes, adult education classes, youth job search centers, employers, retail stores, public noticeboards;
- Online classified ads;
- Ads in local newspaper; and
- Networking directly with employers, educational institutions, and job search centers.

Initial application and registration took place online or by phone, and was capped at 775 potential participants, allowing for non-attendance at the 16 classroom sessions. The registration process included screener questions on age, gender, mother tongue, languages spoken, highest level of education and labour force activity. Data range checks on these questions ensured eligibility by age (18 to 30 only), and the requirement to be able to speak English since the classroom sessions were held only in English. Highest level of education

---

<sup>2</sup> <http://www.ets.org/portal/site/ets/menuitem.c988ba0e5dd572bada20bc47c3921509/?vgnextoid=228eaf5e44df4010VgnVCM10000022f95190RCRD&vgnnextchannel=6332e3b5f64f4010VgnVCM10000022f95190RCRD>

was used as a proxy for literacy level, and gender and labour force activity were collected to ensure a reasonably balanced sample<sup>3</sup>.

A filtering capability was important. For example, it was expected that it would be more difficult to recruit people with lower levels of literacy. As the sample began to fill up and it was evident that people with higher levels of education outpaced those with lower education, filters were set on the higher levels to screen them out.

Telephone registration was possible by calling the NLM phone line, as advertised. In this case SRDC staff registered participants using the same online system, but typing in participants' responses for them.

## **2.7 CHARACTERISTICS OF THE NLM REGISTRANTS**

Analysis of the data indicates that the composition of the sample of 775 persons who enrolled is well balanced, particularly for a convenience sample. Highest level of education reported was fairly evenly split between high school or less, and above high school; similarly, the registrants were relatively evenly split between males and females. In terms of main activity, nearly half (47 per cent) reported they were students, while about 40 per cent reported being employed and 13 per cent unemployed. And as might be expected since people with higher education were filtered out after the first few days, there were more younger registrants than older ones.

## **2.8 CHARACTERISTICS OF THE NLM SAMPLE**

Table 1 presents the demographic profile of the 607 participants who enrolled in NLM and went on to attend an NLM research session. Note that this is a sub-set of the population of 775 persons who registered for NLM project, described in Section 2.7 above. The average age of those who attended a research session (hereafter referred to as the "sample") is 22.7 years. The sample was evenly balanced between male and female. Nearly thirty per cent (29.9) of the sample were born outside of Canada, and 22.4 per cent reported a home language other than English. Nearly half (48.6 per cent) described their main activity as being a student, while 36 per cent said it was working, either full-time or part-time. Almost 45 per cent reported that their highest level of education was high school or less; approximately 55 per cent reported education beyond high school.

By comparing the characteristics of those who attended the sessions with all those who registered, those who reported their main activity as "student" were slightly more likely to attend compared to those who reported being employed at the time of registration. Table 1 shows a higher proportion of people with education above high school amongst attendees than those who registered; however, because the education data reported on Table 1 is from the CLE and not the registration screener, this difference could be attributed to the variant of the highest level of education question used on the CLE.

---

<sup>3</sup> Screenshots from the NLM online registration system are found in Appendix 2.

<b>Table 1: NLM Sample Characteristics</b>	
<b>Characteristic</b>	
<b>Gender (%) (CLE)</b>	
Male	47.3
Female	52.7
<b>Country of birth (%) (LMK)</b>	
Born in Canada	70.1
Born outside Canada	29.9
<b>Average age (years) (RS)</b>	
	22.7
<b>Income (\$) (LMK)</b>	
<= \$10,000	37.7
\$10,000 to \$19,999	28.0
\$20,000+	34.3
<b>Home Language (%) (LMK)</b>	
English	77.6
Other	22.4
<b>Highest Level of Education (%) (CLE)</b>	
Greater than high school	55.4
High school or less	44.7
<b>Main Activity (%) (RS)</b>	
Self-employed	2.0
Student	48.6
Unemployed	13.5
Employed full time	27.3
Employed part time	8.7
<b>Sample size</b>	<b>607</b>

Source note in brackets:

CLE = Canadian Literacy Evaluation  
 LMK=Labour Market Knowledge Survey  
 RS = Registration screener

**Note:**

For this and subsequent tables sample sizes may vary for individual measures because of missing values.

## 2.9 PREPARING FOR ANALYSIS

There are two main components to the LMI analysis plan, each directly linked to the twin research objectives of exploring the relationship between literacy and labour market knowledge, and evaluating the impact of LMI on labour market knowledge. This subsection describes the work done in preparation for the analysis, as well as the types of analyses that were performed to address each of the two research questions. The results of the analyses are presented in Section 3.0 NLM Findings.

### 2.9.1 Merging the datasets

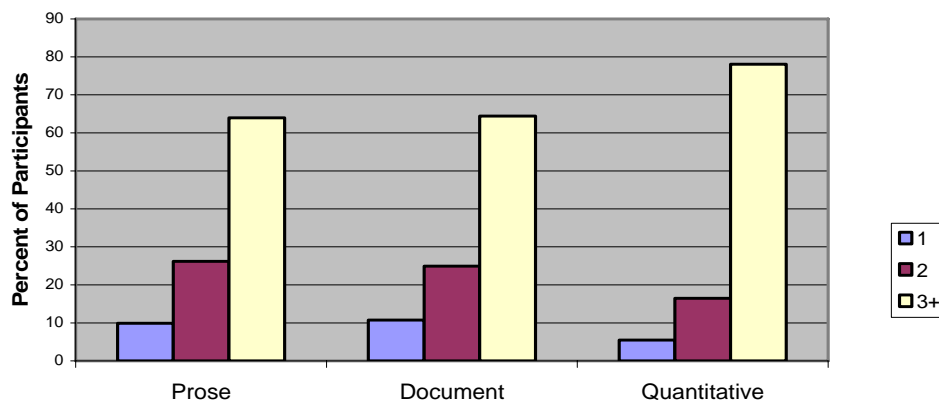
The CLE is a standalone survey which is administered on an HRSDC-Educational Testing Service (ETS) web site. These data reside on the ETS server until downloaded to an SRDC server by staff with administrator privileges on ETS-HRSDC account. The CLE data includes three literacy scores — prose, document and quantitative — as well as the individual answers to 10 socio-demographic questions. The Labour Market Knowledge Survey data was stored in a database on a special SRDC server. Both datasets were downloaded and merged into one “flat” analysis file stored securely on the SRDC server.

### 2.9.2 Scoring the CLE

As noted above, the CLE scores captured for this project are presented as Levels 1, 2 or 3+ for each of the three components of literacy. For purposes of the NLM analysis, participants scoring 3+ on all three components were classified in the “high” literacy subgroup. Those with one or more component scores of less than 3 were classified as low literacy. The high literacy group contains 279 cases; it is smaller than the low literacy group containing 328 cases.

Figure 1 shows the distribution of scores for each of the three component types of literacy: prose, document and quantitative. Note that a higher proportion of NLM participants scored “3+” on quantitative literacy than in prose or document literacy. Thus, a significant portion of the sample scored 3+ on quantitative literacy but were not included in the high literacy subgroup described above because their scores on the document and/or prose literacy components were less than 3. One possible explanation for this is that for English as a Second Language (ESL) participants, taking the test in a second language may have presented a barrier to scoring 3+ on prose or document literacy but less so for quantitative literacy. Further analysis would be required in order to determine whether this is the case.

Figure 1: Distribution of CLE Scores



Source: CLE

### **2.9.3 Scoring the Labour Market Knowledge Survey**

In order for the Labour Market Knowledge Survey to be used to assess the relationship between literacy and labour market knowledge (Research Question #1), it was necessary to devise a way to score responses as “high” or “low.” This was accomplished by examining all survey questions and identifying those for which responses could be scored “1” if correct, or “0” if incorrect. This was straightforward for most of the questions in the “knowledge” and “competencies” domains of the survey.

For questions where it is more difficult to ascertain “correct” responses — i.e. in the perceptions and attitudes domains which ask for views about personal returns to education, or about participants’ confidence in their job search abilities — each was reviewed in turn to assess whether a “1” or “0” could reasonably be assigned to responses. For example, responses concurrent with a favourable view of education — indicating an appreciation of the correlation between education and labour market success — were scored with one point for answers showing affinity for education or 0 points if otherwise.

The few questions where the hypothesized response resulting from greater labour market knowledge could not reasonably be determined were excluded from the overall LMK Survey score. However, these questions were still important for the impact analysis (Research Question #2) and were analyzed as independent questions. The survey scoring key is found in Appendix 4.

Once participants’ LMK scores were computed, the sample median was found. Those who were below the median were placed in the “Low labour market knowledge” subgroup whereas those at or above the median were placed in the “High labour market knowledge” subgroup.<sup>4</sup>

## **2.10 ASSESSING THE RANDOM ASSIGNMENT PROCESS**

When random assignment is successfully implemented in an experiment, the baseline characteristics of the program and control groups should be essentially the same. However, statistically significant differences may occur by chance. As revealed in Table 2, a chi-square test for level of significance was applied to tabulations on baseline characteristics for the program group (those who received the LMI package) and the control group (those who accessed computer games instead). This test showed that the NLM program and control groups have very similar profiles. The only statistically significant difference to emerge was home language — 81.0 per cent of the program group said that they spoke English at home compared to 74.3 per cent of the control group. One method of determining whether or not differences like this have an effect on impact analyses is through regression adjustment, as described in Section 2.12.1 “Adjusted Impacts.” In the case of NLM, adjusted impacts did not differ substantially from the unadjusted impacts. This implies that the different proportions of program and control group members speaking English at home did not appear

---

<sup>4</sup> A few participants scored right at the median. They had to be assigned to one subgroup or the other for purposes of analysis. They were placed in the “High labour market knowledge” subgroup, making the subgroups more equal in size.

to influence the impact of the LMI package. This is consistent with the expected conclusion that the program and control groups are comparable.<sup>5</sup>

<b>Table 2: Comparison of Program and Control Group Characteristics</b>				
	<b>Program</b>	<b>Control</b>	<b>Diff.</b>	<b>Signif.</b>
<b>Gender (%) (CLE)</b>				
Male	45.3	49.2	-3.9	
Female	54.7	50.8	3.9	
<b>Country of birth (%) (LMK)</b>				
Born in Canada	70.9	69.3	1.6	
Born outside Canada	29.1	30.7	-1.6	
<b>Average age (years) (RS)</b>				
	22.6	22.8	-0.2	
<b>Income (\$) (LMK)</b>				
<=\$10,000	35.3	40.0	-4.7	
\$10,000 to \$19,999	30.4	25.7	4.8	
\$20,000 +	34.3	34.3	-0.1	
<b>Home Language (%) (LMK)</b>				
English	81.0	74.3	6.7	**
Other	19.0	25.7	-6.7	
<b>Highest Level of Education (%) (CLE)</b>				
Greater than High School	52.7	58.0	-5.3	
High School or Less	47.3	42.0	5.3	
<b>Main Activity (%) (RS)</b>				
Self-employed	2.1	2.0	0.0	
Student	50.3	46.8	3.6	
Unemployed	13.7	13.2	0.5	
Employed full-time	26.4	28.1	-1.8	
Employed part-time	7.5	9.8	-2.3	
<b>Average Combined CLE Score (CLE)</b>				
	2.61	2.59	0.02	
<b>Sample size</b>				
	300	307		
<b>Notes:</b>				
A chi-square or t-test was applied to determine differences in the distributions.				
Statistical significance levels are indicated as *=10 per cent; **=5 per cent; ***=1 per cent.				
Source note in brackets.				
CLE = Canadian Literacy Evaluation				
LMK = Labour Market Knowledge Survey				
RS = Registration Screener				

<sup>5</sup> For some of the analysis the sample is divided into the high literacy subgroup and the low literacy subgroup. Within each subgroup, SRDC compared the demographics of the program and control groups to check for differences. Among participants with high literacy, there were no significant differences between the program and control groups. Among those with low literacy, the income of the program and control groups were significantly different at the 10 per cent level — with the program group more likely to have a higher income than the control group.

## **2.11 MEASURING THE RELATIONSHIP BETWEEN LITERACY AND LABOUR MARKET KNOWLEDGE**

The NLM sample contains 307 people in the control group. For this group, the Labour Market Knowledge Survey is a base measure, that is, one that is not affected by the LMI slideshow offered in the research session. Thus a non-experimental comparison of the CLE results and the LMK Survey scores of the control group provides insight into the pre-existing relationship between literacy and labour market knowledge. To date, there is very little quantitative information about this relationship. Do people with high literacy naturally have higher labour market knowledge? If so, what is the strength of the relationship? Is one of the types of literacy — prose, document or quantitative — more closely associated with labour market knowledge? Findings from the NLM analysis address these questions, as found in Section 3.1

## **2.12 MEASURING THE IMPACT OF LMI ON LABOUR MARKET KNOWLEDGE**

Random assignment provided for a straightforward yet reliable way to measure any impacts of the LMI intervention. Because the program and control groups were comparable across baseline characteristics, the impacts can be estimated by simply looking at the differences in labour market knowledge between the two groups. The LMK survey was divided into 4 components: knowledge, competencies, perceptions and attitudes. The analysis looks at the impact of the LMI package on responses to questions within each of the domains. In order to do this a series of 4 subscores were created, one for each domain. The scoring method remains the same as with the overall score with a series of "1"s and "0"s awarded for each question, as described in Section 2.9.3.

In addition to looking at the overall impacts, the results can be separated and analyzed twice: one program-control comparison for people in the high literacy group and one program-control comparison for the low literacy group. By presenting these impact results separately, it is possible to analyze whether the LMI intervention had a different effect on the high literacy group, compared with the low literacy group.

### **2.12.1 Adjusted impacts**

The unadjusted impact estimates were calculated by comparing the means of the outcome measures for the program and control groups. In addition, adjusted impact results were generated by estimating a regression in which the outcome variable was modeled as a linear function of the respondents' research group and a range of demographic characteristics. SRDC found that the results were not changed in a substantial way by the adjustment procedure. Therefore since unadjusted results are more transparent and easier to interpret, the unadjusted results are reported.<sup>6</sup>

---

<sup>6</sup> There are two potential advantages to regression-adjusted impact estimates. First, given that observed demographic differences between the program and control groups can be accounted for, the regression-adjusted impact estimates are potentially more accurate than the unadjusted mean differences in outcomes. Second, even in the absence of demographic differences, regression adjustment can improve the statistical precision of impact estimates. Standard errors of regression-adjusted estimates of the program's impact may be lower, which results in improved statistical power.

For the adjusted estimates the following characteristics were used in the model:

- Born in Canada (Yes/No)
- English home language (Yes/No)
- Gender (Male/Female)
- Age (< 26/26+)
- Education beyond high school (Yes/No)
- Student (Yes/No)

For each question, SRDC compared the adjusted impacts to the unadjusted impacts. The only changes were that for certain variables the level of significance shifted by one level (e.g., from 10 per cent level of significance to five per cent level, or from 10 per cent level to no significance or vice versa).



## 3.0 NLM Findings

This section highlights key findings from the study, focusing on those that were shown to be significant at the 10 per cent, 5 per cent, and 1 per cent levels of statistical significance.

### 3.1 THE RELATIONSHIP BETWEEN LITERACY AND LABOUR MARKET KNOWLEDGE

Table 3 presents the relationship between the CLE scores and LMK survey results for the control group members only. Program group members were not included in this analysis as their exposure to the LMI intervention would create a treatment effect on their LMK Survey scores. Thus, this non-experimental analysis describes the existing relationship between literacy and labour market knowledge without any influence from the LMI intervention.

Table 3A shows that there is a positive and statistically significant correlation (at the 1 per cent level) between literacy and labour market knowledge. Those with high scores on the CLE (3+ on each of prose, document and quantitative) on average scored 7.1 per cent better on the Labour Market Knowledge Survey than did those with lower literacy scores.

While this difference is not negligible in percentage terms it is not as dramatic as could be expected. One possible explanation for this relates to how low literacy is defined. About 25 per cent of the NLM sample scored 3+ in two of the CLE test domains — two of either prose, document, or quantitative — but scored 2 in the third domain. Although these individuals are classified as having “low literacy,” their LMK score is on average higher than the others in the low literacy group (64.2 per cent versus 59.8 per cent). This is illustrated by the shape of the distributions shown in Appendix 6 where the distribution for the medium CLE group is skewed somewhat to the right.

Table 3B illustrates the typology based on the relationship between high/low literacy and high/low labour market knowledge. It reveals a strong correlation between high literacy and high labour market knowledge. More than two thirds (68 per cent) of those who scored high on the literacy test scored high on the LMK Survey; only about 38 per cent of those with low literacy scored high on the LMK Survey. It is also noted that some who scored high on the literacy test scored low on the LMK Survey.<sup>7</sup>

---

<sup>7</sup> As noted previously the Locator version of the CLE used for NLM only provided the level (1, 2 or 3+) on each of prose, document and numeracy but not the raw test score (out of 500). As a result, NLM could not analyze the correlation between LMK and the full spectrum of literacy scores. Future research should consider incorporating the full version of the CLE.

<b>Table 3: Relationship between labour market knowledge and literacy</b>					
<b>Table 3A: Average LMK scores by literacy level (HIGH-LOW CLE) (Control group only)</b>					
	Total sample	High literacy (CLE)	Low literacy (CLE)	S.E.	Signif.
<b>LMK score (%)</b>	65.0	68.8	61.7	1.1	***
Sample Size	307				
A t-test was applied to the difference in high/low literacy means. The test shows that the means were significantly different at the 1 per cent level of significance.					
<b>Table 3B: Typology of labour market knowledge and literacy (control group only)</b>					
		High literacy (CLE)	Low literacy (CLE)		
High LMK		95 30.9%	63 20.5%		
Low LMK		45 14.7%	104 33.9%		
Total control group: 307 (100%)					
A chi-square test indicates that there is a statistically significant relationship between literacy and labour market knowledge.					
<b>Sources:</b> Labour Market Knowledge Survey and CLE.					

Figure 2 shows the four groups of the literacy-labour market knowledge typology in the form of a pie chart.

**Figure 2: Literacy and Labour Market Knowledge**

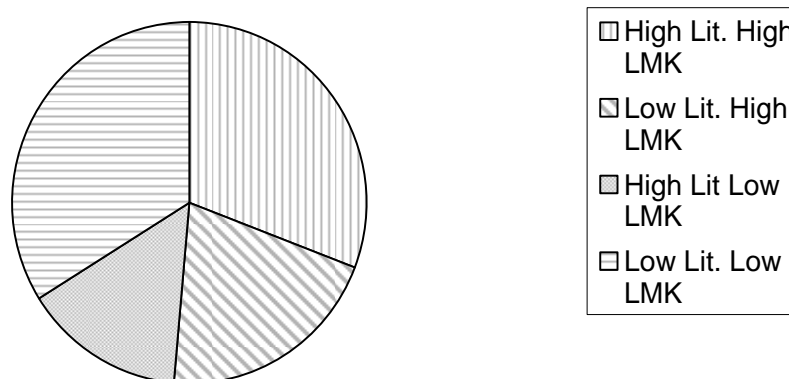


Table 3C below presents a cross-tabulation of the basic demographics of each of the four subgroups of the literacy-labour market knowledge typology. These data give a sense of the complexion of each group. Unlike the multivariate analysis discussed below, in Table 3C no control has been made for any correlation amongst the variables. Therefore this table does

not show which variables are the underlying predictors of labour market knowledge. Nonetheless, the data show that compared to the other three groups, the ‘high-high’ group tends to be older, have higher income, schooling greater than high school, and be born in Canada. The high-high group however is not the group with the highest proportion speaking English at home; both the low-literacy-high LMK and high literacy-low LMK groups have higher proportions speaking English at home (at about 82 per cent).

<b>Table 3C: Demographic Comparison of Literacy/Labour Market Knowledge Subgroups</b>				
	High literacy High LMK	High literacy Low LMK	Low literacy High LMK	Low literacy Low LMK
<b>Gender (%) (CLE)</b>				
Male	51.6	35.6	52.4	51.0
Female	48.4	64.4	47.6	49.0
<b>Country of birth (%) (LMK)</b>				
Born in Canada	76.8	75.6	71.4	58.3
Born outside Canada	23.2	24.4	28.6	41.8
<b>Average age (years) (RS)</b>	23.5	22.7	22.5	22.6
<b>Income (\$) (LMK)</b>				
<=\$10,000	26.6	38.6	43.6	51.0
\$10,000 to \$19,999	28.7	20.5	27.4	24.0
\$20,000 +	44.7	40.9	29.0	25.0
<b>Home Language (%) (LMK)</b>				
English	76.8	82.2	82.5	63.5
Other	23.2	17.8	17.5	36.5
<b>Highest Level of Education (%) (CLE)</b>				
Greater than high school	67.4	68.9	55.6	46.2
High school or less	32.6	31.1	44.4	53.9
<b>Main Activity (%) (RS)</b>				
Employed	39.6	54.6	37.7	35.4
Student	50.6	34.1	45.9	49.5
Unemployed	9.9	11.4	16.4	15.2
<b>Sample size</b>	95	45	63	104
Source note in brackets. CLE = Canadian Literacy Evaluation LMK = Labour Market Knowledge Survey RS = Registration Screener				

In order to explore the relationship between the demographic characteristics of the groups as depicted in Table 3C and labour market knowledge, a non-experimental multivariate regression analysis was conducted. The LMK Survey score was the dependent variable, and a

series of demographic variables were used as independent variables. The analysis reveals a positive relationship between labour market knowledge and the following characteristics:

- Age (older)
- Born in Canada
- Some education beyond high school
- Currently a student

However, no correlation was found with gender and mother tongue. (Detailed results of the regression analyses are in Appendix 5). An additional regression was computed with the same demographic independent variables but with the addition of high/low literacy. This regression showed that literacy is a significant predictor of LMK score. Factors including age, born in Canada, some education beyond high school and currently being a student were significant predictors as well.

As noted above, the CLE has three components: prose, document and quantitative literacy. Regression analysis was performed to assess whether one type of literacy is a better predictor of labour market knowledge. In this case, three regressions were computed. In each regression labour market knowledge was the dependent variable while one of the three literacy components — prose, document and quantitative in turn — was an independent variable.<sup>8</sup> Each regression included the same socio-demographic independent variables. The results indicate that prose, document and quantitative literacy are each significant predictors of LMK score. The sizes of the coefficients in the regression results did not provide conclusive evidence as to which of the three literacy components is the strongest predictor.

### **3.2 THE IMPACT OF LMI ON LABOUR MARKET KNOWLEDGE**

The LMI package presented in the NLM sessions clearly had a positive impact on overall labour market knowledge. These impacts are small, but nonetheless statistically significant. The fact that they are small is not unexpected given the modest nature of the LMI intervention: a 15-minute slideshow with limited scope, requiring only passive viewing. Thus achieving impacts — even small ones — is noteworthy. The size of the impacts may have been influenced by the distribution of scores on the LMK Survey: with a limited number of questions, there was limited variation in the scores and thus the survey may have captured only a portion of the true variation in knowledge that exists among the sample. If NLM were to be repeated with a more comprehensive LMI intervention and/or LMK Survey, larger impacts could be expected.

As shown in Table 4, impacts on the competencies and perceptions domains were significant at the 1 per cent level, while impact on the knowledge questions of the survey were significant at the 5 per cent level. It was only in the attitudes domain that no impact was detected; however, as there were only two survey questions in this domain included in the

---

<sup>8</sup> For each regression two dummy variables were included: score 1 and score 2. Score 1 measured the change in labour market knowledge for a literacy score of 1 compared to a literacy score of 3, holding all other variables constant. Score 2 showed the change in labour market knowledge for a score of 2 compared to a score of 3.

scoring rubric of “1” or “0” as a measure of labour market knowledge, it is possible that there was simply not enough data points for measurement.

<b>Table 4: Impact of LMI on labour market knowledge (Unadjusted) (%)</b>						
	<b>Total</b>	<b>Program</b>	<b>Control</b>	<b>Diff.</b>	<b>Signif.</b>	<b>S.E.</b>
<b>Knowledge</b>	11.7	11.9	11.5	0.5	**	0.2
<b>Competencies</b>	20.2	20.9	19.5	1.4	***	0.3
<b>Perceptions (re education and labour market)</b>	5.8	6.0	5.6	0.4	***	0.1
<b>Attitudes (re indiv. labour market knowledge)</b>	1.2	1.2	1.2	0.0		0.1
<b>Sample size</b>	607	300	307			
<b>Source:</b> Labour Market Knowledge Survey						
<b>Note:</b> Statistical significance levels are indicated as * = 10 per cent; ** = 5 per cent; *** = 1 per cent.						

While a question-by-question analysis of impacts may be difficult to interpret, it is useful to examine impacts by survey domain. The next three subsections highlight the statistically significant impacts for the knowledge, competencies, and perceptions survey domains.<sup>9</sup> Full results from the LMK Survey are in Appendix 3.

### 3.2.1 Impacts on knowledge

For the questions directly addressing labour market “knowledge,” the LMI package had the following main impacts:

- When asked whether they agreed or disagreed with the following statement: “Labour Market Information is only useful when someone is searching for a job,” 22.6 per cent of program group members strongly disagreed compared to only 13.6 per cent of the control group. This statement is directly related to the LMI package, in which the second slide states that Labour Market Information “can be useful at any point” and provides examples of job search, education planning, etc.
- A larger percentage of program group recognized that people with high school education or lower have higher unemployment rates than average. Almost 44 per cent of them felt that people with education below high school have unemployment rates much higher than average, compared with only 33.2 per cent of the control group.
- The LMI package described occupations currently in demand in Ottawa. A larger proportion of the program group correctly identified two of them (74 per cent), while just over half (52.8 per cent) of the control group were successful in identifying two.

<sup>9</sup> Only impacts large enough to be statistically significant are presented here. It should be noted, however, that the LMI package may have had other impacts that, due to sample size, did not appear as statistically significant. There were no impacts detected in the Attitudes domain.

- While one-third (32.9 per cent) of the control group correctly estimated the average earnings range for a trades certificate or diploma, 42.9 per cent of the program group gave the correct answer.

### 3.2.2 Impacts on competencies

The main impacts of the LMI package in the competency domain include:

- Compared to control group members, of whom nearly one in five (19.3 per cent) said they would turn first to a friend or colleague when looking for a job, only 13.3 per cent of the program group said the same.
- The LMI package included information on selected economic trends and their projected effects. Program members were somewhat more likely to correctly identify the effects of economic trends and situations on particular occupations, although in many cases the control group members also selected the correct responses. For example, comparable proportions of the program group (34.6 per cent) and control group (30.9 per cent) understood that shortages in the construction industry would have a positive impact on the job prospects or wages of plumbers, while the same trend would have little or no impact on biologists (79.9 per cent program group and 84.8 per cent control group). However, when asked about the effect of oil prices doubling in the next five years (a scenario posed in the LMI slideshow), program group members were much more likely to understand potential effects on occupations. For example, while only 22.4 per cent of the control group felt this would improve the job prospects or wages for Pipe Fitters, 60.9 per cent of the program group correctly identified this effect. Similarly, 44.3 per cent understood that a doubling of oil prices would likely have a positive effect on the job prospects for heavy machine operators, compared to only 15.7 per cent of the control group.
- A negative impact was found in one of the questions about the doubling of oil prices. Program group members were more likely (21.0 per cent) than the control group (9.1 per cent) to say that this would have a positive effect on the job prospects or wages for flight attendants.
- When asked about effects of the aging population on various occupations, the program group was more likely (58.8 per cent) than the control group (36.8 per cent) to correctly project positive effects on employment for cooks and chefs. Program group members also gleaned from the LMI slideshow that an aging population would likely have negative effects on job prospects for elementary school teachers (44.2 per cent compared to 36.0 per cent of the control group).
- Four survey questions asked about the financial implications of a scenario in which a young woman attends university to get a degree in electrical engineering. Of the four questions posed, the LMI package had an impact on only one of them: Given a 15 per cent annual return on investment “it was financially worthwhile for her to pursue a degree in electrical engineering.” Over half (54.2 per cent) of the program group strongly agreed with this statement, compared with only 44.0 per cent of the control group.

- Program group members were more likely (78.0 per cent) than the control group (71.6 per cent) to say that information about emerging sectors in the Canadian economy is important to consult in order to help choose a career. They were also more likely (74.2 per cent) than the control group (65.7 per cent) to say that they feel they could find this information if they looked for it.

### **3.2.3 Impacts on perceptions**

The responses to the perceptions questions indicate that the LMI package caused people to think positively about education as a factor in labour market success. For example:

- Program group members were more likely to strongly disagree with the statement: “University students are no better off than they would have been in the first place.” While only 37.5 per cent of the control group strongly disagreed with this statement, nearly half (48.3 per cent) of the program group did so.
- When asked if they would encourage a young person to go to college or university, 72.5 per cent of the program group strongly agreed they would do this, compared to only 58.6 per cent of the control group. However, it should be noted that this difference is accounted for in the “agree” responses for both groups, and thus the LMI package impacted the strength of the opinion, not the direction.
- While very few respondents (8.9 per cent of total sample) agreed or strongly agreed with the statement: “No matter how much education I get, I am likely to end up in a low-paying job,” the program group was less likely (0.3 per cent) than the control group (3.4 per cent) to strongly agree with this statement.
- Program group members were more likely (56.2 per cent) than the control group (46.3 per cent) to strongly agree with the statement: “It is important that I get as much education and training as I can.” However, again this difference is netted out in the “agree” responses and the LMI intervention impacted the strength of opinion, not direction.
- The program group also recognized that education facilitates finding a job. When faced with the statement: “People with more education can find a new job more easily,” over three-quarters (77.2 per cent) of the program group agreed or strongly agreed, compared to two-thirds (66.6 per cent) of the control group.
- The participants who took part in NLM were confident in their job search abilities, with more than 4 out of 5 in both groups agreeing with this statement. However, the LMI intervention had an impact in that a negligible number (0.3 per cent) of the program group strongly disagreed with this statement, compared to 2.7 per cent of the control group.

### **3.3 SUBGROUP ANALYSIS OF LMI IMPACTS: HIGH – LOW LITERACY**

The LMI slideshow was more likely to have an impact for the higher literacy group than those with lower literacy. As shown below in Table 5, for the subscales by domain, the program-control difference was more often statistically significant for those with higher

literacy than the group with lower literacy. Significant impacts — at the 1 per cent level — were measured for the higher literacy group on the domains of knowledge, competencies, and perceptions. However, significant impacts at the 1 per cent level were found only in the competencies domain for the lower literacy group; for them, there were no detectable impacts on knowledge or perceptions.<sup>10</sup>

Another difference between the high-low literacy subgroups is found in their responses to the statement “Labour market knowledge is only useful when someone is searching for a job.” The program–control difference on the number who disagree with this statement for the high literacy subgroup is larger than for the low literacy subgroup (12.2 versus 4.1 per cent). For the high literacy subgroup the program-control difference is significant at the 1 per cent level whereas it is not significant for the low literacy subgroup.

**Table 5: Impact of LMI by literacy level (Unadjusted) (%)**

	High literacy					Low literacy				
	Program	Control	Impact	Sig.	S.E.	Program	Control	Impact	Sig.	S.E.
Knowledge	12.9	12.2	0.7	***	0.3	11.1	10.8	0.3		0.3
Competencies	22.5	20.7	1.8	***	0.4	19.5	18.4	1.1	***	0.4
Perceptions (re education and labour market)	6.4	5.7	0.6	***	0.1	5.7	5.5	0.2		0.2
Attitudes (re indiv. labour market knowledge)	1.3	1.2	0.1		0.1	1.2	1.2	0.0		0.1
<b>Labour Market Information is only useful when someone is searching for a job.</b>										
Agree	7.4	19.5	-12.2	***	4.1	36.2	40.3	-4.1		5.5
Disagree	92.6	80.5	12.2	***	4.1	63.8	59.7	4.1		5.5
<b>Sample size</b>	139	140				161	167			
<b>Sources:</b> Labour Market Knowledge Survey CLE: High literacy = all components 3+										
<b>Note:</b> Statistical significance levels are indicated as * = 10 per cent; ** = 5 per cent; *** = 1 per cent.										

In another and different illustration of the correlation between literacy and labour market knowledge, it is interesting to note that the LMK scores for the low literacy program group were the same or lower than the LMK scores of the high literacy control group. In other words, even after viewing the LMI slideshow, labour market knowledge amongst those with lower literacy appears to be lower than those with higher literacy, regardless if this group received the LMI intervention or not.<sup>11</sup>

<sup>10</sup> Q-tests were applied in order to check for the significance of the differences in the size of the impacts between the two groups. The Q-tests showed statistically significant differences between the two impacts on the perceptions domain but not knowledge or competencies; however differences could exist regardless of the inability of the Q-test to detect them.

<sup>11</sup> Further regression analysis validates that these observed differences are statistically significant.



Table 6 shows the differences in characteristics between the high and low literacy groups. The groups differ along several dimensions. The higher literacy group tends to be older, with an average age of 23.1 years, compared with 22.4 for the lower literacy group. The higher literacy group was more likely to have education beyond high school (64.9 per cent) than those in the lower literacy group (47.3 per cent) and tend to have higher income as well. Those in the lower literacy group were more likely to be born outside of Canada (35.6 per cent) than those in the higher literacy group (23.3 per cent). They were also more likely to speak a language other than English at home (25.6 per cent) compared with participants who scored higher on the CLE (18.6 per cent). These findings are congruent with those from the analysis of the relationship between literacy and labour market knowledge, and the regression analysis of factors influencing labour market knowledge.

<b>Table 6: Comparison of High-Low Literacy Group Characteristics</b>				
	<b>High literacy</b>	<b>Low literacy</b>	<b>Difference</b>	<b>Signif.</b>
<b>Gender (%) (CLE)</b>				
Male	46.2	48.2	-1.9	
Female	53.8	51.8	1.9	
<b>Country of birth (%) (LMK)</b>				
Born in Canada	76.7	64.4	12.3	***
Born outside Canada	23.3	35.6	-12.3	
<b>Average age (years) (RS)</b>				
	23.1	22.4	0.8	***
<b>Income (\$) (LMK)</b>				
<=\$10,000	33.1	41.7	-8.6	**
\$10,000 to \$19,999	26.9	29.0	-2.1	
\$20,000 +	40.0	29.3	10.7	
<b>Home Language (%) (LMK)</b>				
English	81.4	74.4	7.0	**
Other	18.6	25.6	-7.0	
<b>Highest Level of Education (%) (CLE)</b>				
Greater than high school	64.9	47.3	17.6	***
High school or less	35.1	52.7	-17.6	
<b>Main Activity (%) (RS)</b>				
Self Employed	1.5	2.5	-1.1	
Student	47.6	49.4	-1.8	
Unemployed	11.8	14.9	-3.1	
Employed full-time	31.4	23.7	7.6	
Employed part-time	7.7	9.5	-1.7	
<b>Sample size</b>				
	279	328		
Notes:				
A chi-square or t-test was applied to determine differences in the distributions.				
Statistical significance levels indicated as * = 10 per cent; ** = 5 per cent; *** = 1 per cent.				
Source note in brackets.				
CLE = Canadian Literacy Evaluation				
LMK = Labour Market Knowledge Survey				
RS = Registration Screener				

## 4.0 Limitations of Analysis

The generation of estimates of impacts from the *Navigating the Labour Market* project was limited by a number of factors: the sample size, the use of a classroom experiment done in limited timeframe, and no time to test whether the intervention had lasting effects on their knowledge, perceptions or labour market behaviour. With a sample size of 607 there remains the possibility that impacts may have gone undetected. Moreover, the small sample limited the ability to conduct subgroups analysis, particularly on the combination of literacy and labour market knowledge.<sup>12</sup>

SRDC has retained participant names, telephone numbers and email addresses collected during project registration, and has written permission from the majority of participants to use this information to re-contact them for future research, should there be an interest in following up on the potential for longer-term impacts of the LMI intervention.

---

<sup>12</sup> With a larger sample program-control comparisons could be done within each subgroup: high literacy-high labour market knowledge, high literacy-low labour market knowledge, low literacy-high labour market knowledge, low literacy-low labour market knowledge. In addition to a larger sample size, a baseline measure of labour market knowledge would be required for this analysis.



## 5.0 Summary and Conclusions

NLM was designed:

- To probe the extent and distribution of labour market knowledge among young Canadians of varying literacy levels; for example, do people with high literacy have more and/or better labour market knowledge?; and
- To assess the impact of a short LMI intervention on labour market knowledge.

Regarding the relationship between literacy and labour market knowledge, NLM found that these two variables are positively correlated. A large percentage of those with high literacy also scored high on the Labour Market Knowledge Survey. In contrast, a large percentage of the group with low literacy also scored low on labour market knowledge.

Regarding the impact of LMI on labour market knowledge, NLM found that LMI did have positive impacts on labour market knowledge overall and in each of three domains: knowledge, competencies, and perceptions. Given the modest nature of the LMI intervention used for this study, the presence of even small impacts is noteworthy.

The LMI intervention had larger impacts on those with higher literacy than it did for those with lower literacy. This was a short intervention that was not designed for any specific subgroup within the 18 to 30 age category. The lack of impact on the low literacy subgroup may be due to the form and content of the LMI intervention. Information for this subgroup may have to be structured and tailored to suit their specific abilities to process text and navigate electronic media.

There were also important operational findings from this project. With generous incentives and a multi-faceted recruitment campaign, participants within the targeted age category were recruited in sufficient numbers within a tight time frame. By monitoring the socio-demographic characteristics of registrants during the enrolment period, SRDC was able to ensure that the sample constituted a broad cross-section of the target population. The classroom setting allowed monitors to observe the engagement of participants and assist them in overcoming technical difficulties.



## 6.0 Policy Relevance and Further Research

For policymakers and LMI practitioners, the good news from NLM is that even a short LMI intervention can have a positive impact on labour market knowledge. Equally important — although less optimistic — is the finding that the LMI intervention had less of an impact on people with lower levels of literacy. Even after viewing the LMI slideshow, those in the lower literacy group had lower average scores on the Labour Market Knowledge Survey than higher literacy people in the control group. This suggests several possibilities: that attention must be paid to the content of the LMI made available in electronic format in order for it to be useful to individuals with lower literacy skills, or that such individuals require a more intensive “dose” of LMI via a different delivery channel, or that improvements in literacy levels may be an effective first step as a prelude to labour market decision-making and success.

NLM also shed light on the relationship between literacy and labour market knowledge, finding them to be strongly correlated. Extending this research to a larger sample size would allow for detailed analysis of the four subgroups of the typology and better understanding of the relationships between these two variables. This in turn would help inform related policy decision above, i.e. should treatment efforts be focused on the provision of LMI, or literacy training, or both? And for whom?

Labour market knowledge was shown to be positively correlated with age (older), born in Canada, education (some) beyond high school, and currently being a student. Since being born in Canada is positively correlated with labour market knowledge, the immigrant sub-sample may represent another group, in addition to those with lower literacy skills, that may need needing additional supports to improve their labour market knowledge.

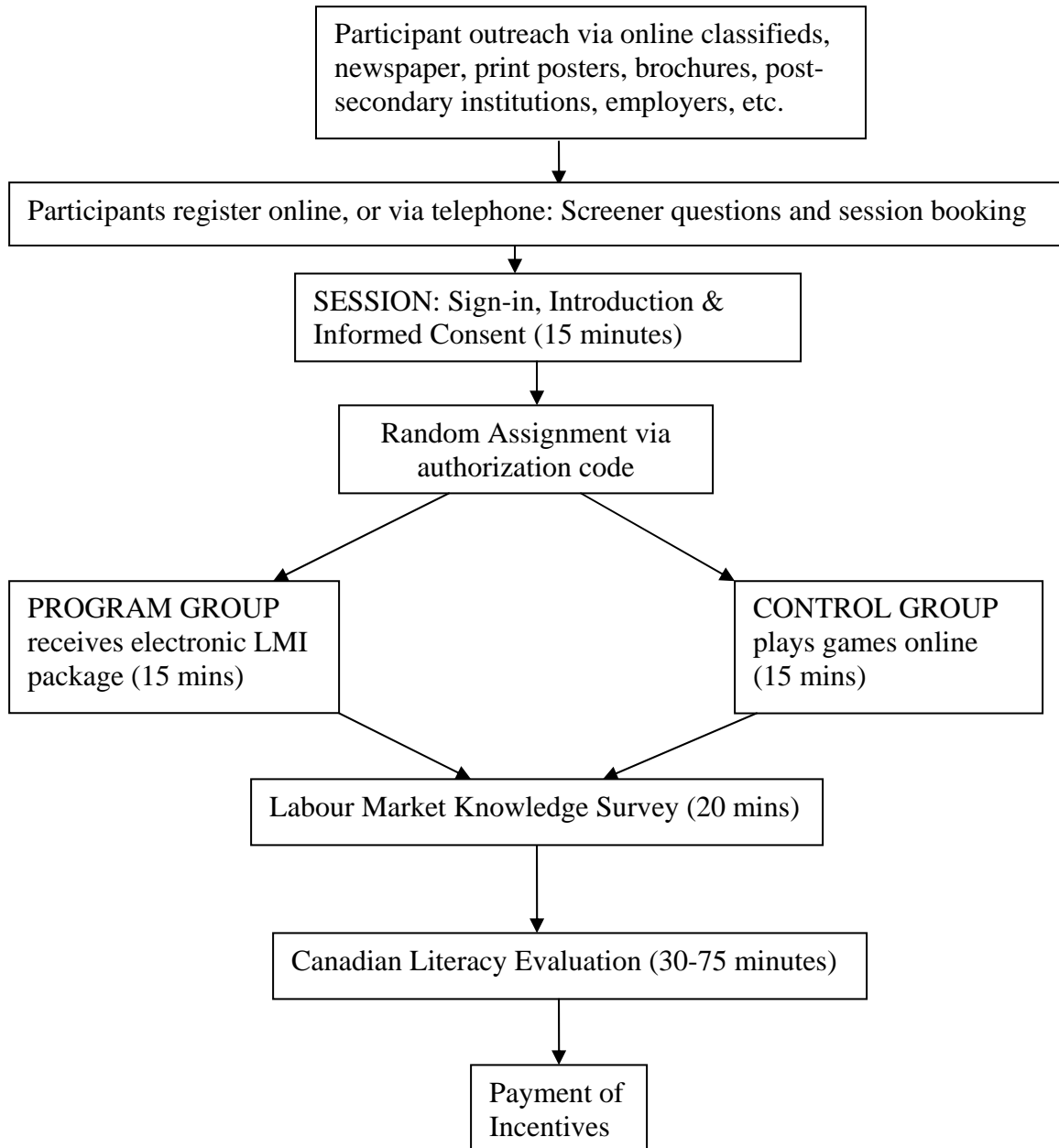
As mentioned in Section 4.0 Limitations, further research is needed to see if the LMI impacts, such as those achieved in NLM, endure over time. Another valuable inquiry would look at whether bigger impacts would result from a more comprehensive LMI intervention. Indeed, an extension of the NLM model testing LMI packages of varying length, content and format through experimental designs would be a valuable and dependable way of exploring LMI impacts by population subgroup.

NLM findings were inconclusive about whether one of the literacy components — prose, document or quantitative — is a better predictor of labour market knowledge. Further investigation to answer this question could be done using a full-length CLE test, a longer LMI intervention, and with a larger sample population in order to test the validity of the findings and implications for designing labour market information. The full-length CLE would provide raw scores on literacy levels and thus a broader range of test results from which the three types of literacy could better be compared to one another. As well, using the full-length CLE would illuminate whether NLM participants’ scores were just below or above the cutoffs for the Locator Levels 1,2,3+ and whether patterns exist that could be addressed through literacy training. For example, whether recent immigrants could best be served by focusing on improving document literacy, or whether there are groups of people

who have high relatively high labour market knowledge but who nonetheless have difficulties finding or retaining employment because their quantitative skills are poor.



## Appendix 1: NLM Operations flowchart



## Appendix 2: NLM Registration system screenshots

SRDC Survey Registration - Windows Internet Explorer

http://localhost/SRDCRegistration/Register.aspx

SRDC SRSA

Learning What Works  
Survey Questions

### Navigating the Labour Market Study

Please answer the following questions so we can check for a space for you in one of our sessions.

**Basic Information**

Age (in years):

Gender:  Male  Female

What is the language that you first learned at home in childhood and still understand?

In which languages can you conduct a conversation? (Mark all that apply)

- English
- French
- Italian
- Chinese (Mandarin or Cantonese)
- Spanish
- Other (Specify)

What is the highest level of education that you have completed?

Which of the following best describes your main activity?


**Confirmation**

Re-type the word that appears to the right:

Next >>

Done Local intranet 75%

SRDC Survey Registration  
https://10.100.0.28/registration/SessionSelect.aspx?rid=50429587

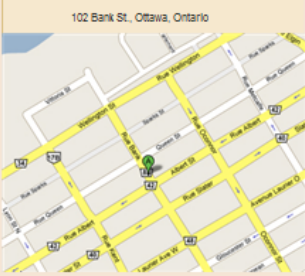


### Navigating the Labour Market Study

Please select a time and location in which to take the survey that is most convenient to you. After you have selected which session you would like to attend please confirm below. You will then be asked for your name and contact information to complete registration.

Location and date

**Step 1: Select a location**  
Academy of Learning  
102 Bank St., Ottawa, Ontario



**Step 2: Select a time and date**  
Tuesday, July 01, 2008 1:00am-4:00am

July 2008						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
29	30	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2
3	4	5	6	7	8	9

**Confirm**  
Are you sure this is the location and date you want?

**Contact Information**

Please enter your name as you would like it to appear on your \$75 cheque.

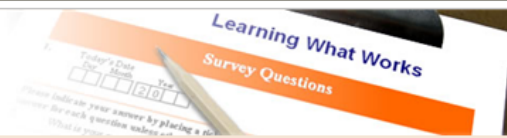

First Name:   
Last Name:   
Phone Number:

Your email will only be used to send you a reminder before the session.

Email Address:   
Confirm Email:

Browser address bar: <https://10.100.0.28/registration/SessionSelect.aspx?rid> Certificate Error Google

SRDC Survey Registration



### Navigating the Labour Market Study

You have successfully registered for the study. We will send you a reminder email before the session, including information on parking and bus routes to your session location.

Registration details

#### Where and When

Academy of Learning  
102 Bank St.  
Suite 402  
Ottawa  
Ontario  
K1P 5N4

Tuesday, July 01, 2008  
at  
1:00 AM - 4:00 AM

Please arrive 5 - 10 minutes before the session

Keep a copy of this information. Click Print to print a copy of this page. [Print this page](#)

### Invite a friend!

You may invite up to 3 friends by entering their Email addresses

Message to send:

```
Hi,  
I just signed up for a research study.  
It pays $75. I thought you might be interested too.  
http://www.srdc.org/registerme
```

[Invite](#)

### Thank you!

If you have any questions email us at [NLM@srdc.org](mailto:NLM@srdc.org) or call us at 613-818-8505

### Appendix 3: Detailed impact results

<b>Table 3-1: Impact of LMI package on knowledge (Unadjusted) (%)</b>						
	<b>Total</b>	<b>Program</b>	<b>Control</b>	<b>Diff.</b>	<b>Signif.</b>	<b>S.E.</b>
<b>Labour Market Information is only useful when someone is searching for a job.</b>						
Strongly Agree	5.0	3.8	6.3	-2.5		1.8
Agree	21.7	18.8	24.7	-6.0 *		3.4
Disagree	55.1	54.9	55.4	-0.5		4.2
Strongly Disagree	18.1	22.6	13.6	9.0 ***		3.2
<b>Please indicate unemployment rate for following levels of education relative to the overall average.</b>						
<b>Less Than High School</b>						
1) Much Lower	18.5	20.5	16.4	4.0		3.2
2) Lower	12.4	13.1	11.7	1.3		2.7
3) About Equal	7.9	5.0	10.7	-5.7 ***		2.2
4) Higher	22.8	17.8	27.9	-10.1 ***		3.4
5) Much Higher	38.4	43.6	33.2	10.4 ***		4.0
<b>High School Graduate</b>						
1) Much Lower	2.7	2.4	3.0	-0.6		1.3
2) Lower	20.8	20.6	21.0	-0.4		3.3
3) About Equal	34.1	29.7	38.3	-8.6 **		3.9
4) Higher	39.4	44.6	34.3	10.3 **		4.0
5) Much Higher	3.0	2.7	3.3	-0.6		1.4
<b>Postsecondary certificate or diploma</b>						
1) Much Lower	3.0	2.4	3.6	-1.3		1.4
2) Lower	27.6	24.9	30.1	-5.2		3.7
3) About Equal	59.1	61.6	56.6	5.0		4.0
4) Higher	10.0	11.1	8.9	2.2		2.5
5) Much Higher	0.3	0.0	0.7	-0.7		0.5
<b>University Bachelor's Degree</b>						
1) Much Lower	15.2	16.2	14.3	1.9		2.9
2) Lower	40.8	42.4	39.2	3.2		4.0
3) About Equal	18.2	13.5	22.9	-9.5 ***		3.1
4) Higher	23.4	25.6	21.3	4.3		3.5
5) Much Higher	2.3	2.4	2.3	0.0		1.2
<b>University Degree above a Bachelor's</b>						
1) Much Lower	45.8	51.4	40.2	11.2 ***		4.1
2) Lower	20.0	12.6	27.4	-14.8 ***		3.2
3) About Equal	7.8	6.1	9.5	-3.3		2.2
4) Higher	10.3	10.2	10.5	-0.3		2.5
5) Much Higher	16.1	19.7	12.5	7.2 **		3.0

<b>What is the current unemployment rate in Ottawa in relation to the Canadian average? Is it...</b>					
1) Much Lower	4.3	3.3	5.4	-2.1	1.8
2) Lower	43.7	42.2	45.4	-3.2	4.3
3) About Equal	33.8	34.2	33.5	0.7	4.1
4) Higher	16.3	17.8	14.6	3.2	3.2
5) Much Higher	1.9	2.5	1.2	1.4	1.2
<b>The minimum level of education usually required for the following occupations.</b>					
<b>Plumber</b>					
1) High School	11.3	11.4	11.2	0.2	2.6
2) Apprenticeship	76.7	79.2	74.3	4.9	3.4
3) College degree, diploma or certific	11.6	9.1	14.1	-5.1 *	2.6
4) University Bachelor's Degree	0.2	0.3	0.0	0.3	0.3
5) University Master's Degree	0.2	0.0	0.3	-0.3	0.3
<b>Social Worker</b>					
1) High School	4.0	3.7	4.2	-0.6	1.6
2) Apprenticeship	2.6	1.7	3.6	-1.9	1.3
3) College degree, diploma or certific	66.8	70.9	62.9	8.0 **	3.8
4) University Bachelor's Degree	21.6	19.7	23.5	-3.7	3.3
5) University Master's Degree	5.0	4.0	5.9	-1.8	1.8
<b>Medical Laboratory Technologist</b>					
1) High School	0.0	0.0	0.0	0.0	.
2) Apprenticeship	1.3	1.7	1.0	0.7	0.9
3) College degree, diploma or certific	50.8	50.8	50.8	0.0	4.1
4) University Bachelor's Degree	31.6	33.8	29.5	4.3	3.8
5) University Master's Degree	16.2	13.7	18.7	-5.0 *	3.0
<b>Bus Driver</b>					
1) High School	81.7	81.6	81.9	-0.3	3.2
2) Apprenticeship	9.2	9.0	9.4	-0.4	2.4
3) College degree, diploma or certific	8.5	8.7	8.4	0.3	2.3
4) University Bachelor's Degree	0.5	0.7	0.3	0.4	0.6
5) University Master's Degree	0.0	0.0	0.0	0.0	.
<b>Number of correct answers in selecting two employers in Ottawa who have strong demand for employers</b>					
Zero correct answers	4.3	2.0	6.5	-4.5 ***	1.6
One correct answer	32.5	24.0	40.7	-16.7 ***	3.7
Two correct answers	63.3	74.0	52.8	21.2 ***	3.8
<b>Best guess on salary for persons with less than high school, given an average Canadian worker makes \$45, 500</b>					
<\$30, 000	78.7	81.8	75.7	6.2 *	3.3
\$30,000 to \$40,000	18.4	15.8	21.0	-5.2	3.2
\$40,000 to \$50,000	2.5	1.7	3.3	-1.6	1.3
\$50,000 to \$60,000	0.3	0.7	0.0	0.7	0.5
\$60,000 to \$70,000	0.0	0.0	0.0	0.0	.
\$70,000 to \$80,000	0.0	0.0	0.0	0.0	.
\$80,000 or more	0.0	0.0	0.0	0.0	.

<b>Best guess on salary for persons with <u>high school diploma or some PSE</u>, given an average Canadian worker makes \$45, 500</b>					
<\$30, 000	23.3	22.1	24.5	-2.4	3.5
\$30,000 to \$40,000	60.9	64.9	57.0	7.9 **	4.0
\$40,000 to \$50,000	13.8	11.0	16.6	-5.5 **	2.8
\$50,000 to \$60,000	1.3	1.0	1.7	-0.7	0.9
\$60,000 to \$70,000	0.7	1.0	0.3	0.7	0.7
\$70,000 to \$80,000	0.0	0.0	0.0	0.0	.
\$80,000 or more	0.0	0.0	0.0	0.0	.
<b>Best guess on salary for persons with <u>trades certificate or diploma</u>, given an average Canadian worker makes \$45, 500</b>					
<\$30, 000	1.5	1.0	2.0	-1.0	1.0
\$30,000 to \$40,000	25.8	27.0	24.7	2.4	3.6
\$40,000 to \$50,000	37.8	42.9	32.9	10.0 **	3.9
\$50,000 to \$60,000	23.3	20.3	26.3	-6.0 *	3.5
\$60,000 to \$70,000	8.0	6.8	9.2	-2.5	2.2
\$70,000 to \$80,000	2.7	1.7	3.6	-1.9	1.3
\$80,000 or more	0.8	0.3	1.3	-1.0	0.7
<b>Best guess on salary for persons with <u>college certificate or diploma</u>, given an average Canadian worker makes \$45, 500</b>					
<\$30, 000	0.7	0.7	0.7	0.0	0.7
\$30,000 to \$40,000	15.3	12.4	18.1	-5.7 *	2.9
\$40,000 to \$50,000	36.8	38.5	35.2	3.3	3.9
\$50,000 to \$60,000	31.5	31.8	31.3	0.5	3.8
\$60,000 to \$70,000	12.8	13.7	11.8	1.9	2.7
\$70,000 to \$80,000	2.7	2.7	2.6	0.0	1.3
\$80,000 or more	0.3	0.3	0.3	0.0	0.5
<b>Best guess on salary for persons with <u>university certificate, diploma or degree</u>, given an average Canadian worker makes \$45, 500</b>					
<\$30, 000	0.3	0.7	0.0	0.7	0.5
\$30,000 to \$40,000	1.7	1.0	2.3	-1.3	1.0
\$40,000 to \$50,000	11.1	8.7	13.5	-4.8 *	2.6
\$50,000 to \$60,000	27.5	24.1	30.9	-6.8 *	3.6
\$60,000 to \$70,000	24.4	25.4	23.4	2.1	3.5
\$70,000 to \$80,000	21.1	24.1	18.1	6.0 *	3.3
\$80,000 or more	13.9	16.1	11.8	4.2	2.8
<b>An increase in Ontario's unemployment rate makes finding work:</b>					
Easier	7.5	8.1	6.9	1.2	2.2
Harder	66.1	66.2	66.0	0.2	4.0
About the same	26.4	25.7	27.1	-1.4	3.7
<b>Sample size</b>	607	300	307		
<b>Source:</b> Labour Market Knowledge Survey					
<b>Note:</b> Statistical significance levels are indicated as *=10 per cent; **=5 per cent; ***=1 per cent.					

**Table 3-2: Impact of LMI package on competencies (%)**

	Total	Program	Control	Diff.	Signif.	S.E.
<b>First place would look for a job</b>						
Parents	7.1	6.3	7.8	-1.5		2.1
Friends/colleagues	16.3	13.3	19.3	-5.9 **		3.0
Employment counsellor or agencies	8.9	10.7	7.2	3.5		2.3
Government website	28.9	30.7	27.1	3.5		3.7
Newspaper ads	8.3	7.7	8.8	-1.2		2.2
Private online sites (e.g., monster.ca)	20.0	20.3	19.6	0.7		3.3
Career centre at educational institution	8.6	9.3	7.8	1.5		2.3
News stories	0.0	0.0	0.0	0.0		
Other	2.0	1.7	2.3	-0.6		1.1
<b>Effect of the following situations on job prospects or wages:</b>						
<b><u>The aging of the population</u></b>						
<b>Financial Advisor</b>						
1) Positive impact	68.7	71.2	66.2	5.0		3.9
2) Negative impact	9.6	9.8	9.3	0.5		2.5
3) Little or no impact	21.7	18.9	24.5	-5.5		3.4
<b>Elementary School Teacher</b>						
1) Positive impact	36.2	34.2	38.0	-3.8		4.0
2) Negative impact	40.1	44.2	36.0	8.2 **		4.0
3) Little or no impact	23.8	21.6	25.9	-4.4		3.5
<b>Cooks and Chefs</b>						
1) Positive impact	47.8	58.8	36.8	22.1 ***		4.1
2) Negative impact	8.4	6.9	10.0	-3.0		2.3
3) Little or no impact	43.8	34.3	53.3	-19.0 ***		4.1
<b>Nurse</b>						
1) Positive impact	79.5	79.0	80.0	-1.0		3.3
2) Negative impact	15.3	15.3	15.3	0.0		0.0
3) Little or no impact	5.3	5.8	4.7	1.0		1.8
<b>Construction Worker</b>						
1) Positive impact	40.0	43.5	36.5	7.1 *		4.1
2) Negative impact	21.8	21.1	22.6	-1.5		3.5
3) Little or no impact	38.2	35.4	41.0	-5.5		4.1
<b><u>Oil prices expected to double</u></b>						
<b>Heavy Machine Operator</b>						
1) Positive impact	29.8	44.3	15.7	28.6 ***		3.6
2) Negative impact	61.5	48.8	73.9	-25.1 ***		3.9
3) Little or no impact	8.6	6.9	10.4	-3.5		2.3
<b>Flight Attendant</b>						
1) Positive impact	14.9	21.0	9.1	11.9 ***		2.9
2) Negative impact	56.2	50.7	61.4	-10.7 ***		4.1
3) Little or no impact	28.9	28.3	29.5	-1.2		3.8
<b>School Teacher</b>						
1) Positive impact	6.2	7.8	4.7	3.1		2.0
2) Negative impact	20.2	17.3	23.1	-5.7 *		3.3
3) Little or no impact	73.5	74.8	72.2	2.6		3.6



<b>Pipe Fitter</b>					
1) Positive impact	41.6	60.9	22.4	38.5 ***	3.8
2) Negative impact	29.3	19.4	39.1	-19.8 ***	3.8
3) Little or no impact	29.1	19.7	38.4	-18.7 ***	3.8
<b>Nuclear Engineer</b>					
1) Positive impact	53.8	59.8	47.4	12.4 ***	4.2
2) Negative impact	26.0	19.2	33.1	-13.9 ***	3.7
3) Little or no impact	20.3	21.0	19.5	1.4	3.4
<b>Labour Shortages in Construction Industry</b>					
<b>Physiotherapist</b>					
1) Positive impact	14.8	17.1	12.5	4.6	3.0
2) Negative impact	28.6	29.4	27.8	1.6	3.8
3) Little or no impact	56.6	53.5	59.7	-6.2	4.1
<b>Crane Operator</b>					
1) Positive impact	37.5	38.3	36.7	1.7	4.0
2) Negative impact	55.2	55.4	55.0	0.4	4.1
3) Little or no impact	7.3	6.3	8.3	-2.1	2.2
<b>Plumber</b>					
1) Positive impact	32.7	34.6	30.9	3.7	3.9
2) Negative impact	43.2	43.5	42.9	0.6	4.1
3) Little or no impact	24.1	21.9	26.2	-4.3	3.5
<b>Biologist</b>					
1) Positive impact	8.5	10.4	6.7	3.6	2.3
2) Negative impact	9.0	9.7	8.4	1.3	2.4
3) Little or no impact	82.4	79.9	84.8	-4.9	3.1
<b>Journalist</b>					
1) Positive impact	19.1	21.9	16.3	5.6 *	3.3
2) Negative impact	5.9	5.9	5.9	0.0	2.0
3) Little or no impact	75.0	72.2	77.9	-5.6	3.6
<b>Given a 15% annual return on a university degree in electrical engineering it was financially worthwhile to pursue such a degree:</b>					
Strongly agree	49.1	54.2	44.0	10.2 **	4.1
Agree	43.6	39.7	47.4	-7.7 *	4.1
Disagree	4.4	3.4	5.3	-1.9	1.7
Strongly disagree	3.0	2.7	3.3	-0.6	1.4
<b>Given a 15% annual return on a university degree in electrical engineering it would have been better off investing in Canada Saving Bonds paying 4%:</b>					
Strongly agree	4.0	3.1	4.8	-1.6	1.7
Agree	16.4	15.7	17.1	-1.3	3.3
Disagree	56.9	56.3	57.5	-1.2	4.4
Strongly disagree	22.7	24.8	20.6	4.2	3.7
<b>Given a 15% annual return on a university degree in electrical engineering this would only be a good investment if did not have to pay back student loans:</b>					
Strongly agree	12.5	10.9	14.0	-3.1	2.7
Agree	16.2	14.3	18.1	-3.7	3.0
Disagree	55.7	57.7	53.8	3.8	4.1
Strongly disagree	15.5	17.1	14.0	3.0	3.0

<b>Given a 15% annual return on a university degree in electrical engineering it is not worthwhile because have to pay much more in income taxes:</b>					
Strongly agree	2.4	3.0	1.8	1.2	1.3
Agree	10.5	8.7	12.1	-3.5	2.6
Disagree	55.2	57.0	53.6	3.4	4.3
Strongly disagree	31.9	31.3	32.5	-1.2	4.0
<b>Important information to consult in order to help choose a career:</b>					
<b>Unemployment rate for occupations of interest</b>					
Important	88.3	89.3	87.3	2.1	2.6
Not important	11.7	10.7	12.7	-2.1	2.6
<b>Average salary by occupation</b>					
Important	94.9	95.3	94.4	0.9	1.8
Not important	5.1	4.7	5.6	-0.9	1.8
<b>Employment Insurance regulations</b>					
Important	57.9	58.0	57.8	0.2	4.0
Not important	42.1	42.0	42.2	-0.2	4.0
<b>Emerging sectors in Canadian economy</b>					
Important	74.8	78.0	71.6	6.4 *	3.5
Not important	25.3	22.0	28.4	-6.4 *	3.5
<b>Provincial income tax</b>					
Important	54.8	56.3	53.3	3.1	4.0
Not important	45.2	43.7	46.7	-3.1	4.0
<b>Reputation of persons in that occupation</b>					
Important	61.2	59.0	63.4	-4.4	4.0
Not important	38.8	41.0	36.6	4.4	4.0
<b>Years of schooling required</b>					
Important	87.8	89.0	86.6	2.4	2.7
Not important	12.2	11.0	13.4	-2.4	2.7
<b>Opinion of friends</b>					
Important	31.2	31.3	31.0	0.3	3.8
Not important	68.8	68.7	69.0	-0.3	3.8
<b>Could find important information to consult in order to help choose a career:</b>					
<b>Unemployment rate for occupations of interest</b>					
Could find information	79.3	81.3	77.5	3.8	3.3
Could not find information	20.7	18.7	22.5	-3.8	3.3
<b>Average salary by occupation</b>					
Could find information	93.2	92.3	94.1	-1.8	2.0
Could not find information	6.8	7.7	5.9	1.8	2.0
<b>Employment Insurance regulations</b>					
Could find information	65.3	69.2	61.4	7.8 **	3.9
Could not find information	34.7	30.8	38.6	-7.8 **	3.9
<b>Emerging sectors in Canadian economy</b>					
Could find information	69.9	74.2	65.7	8.6 **	3.7
Could not find information	30.1	25.8	34.3	-8.6 **	3.7

<b>Provincial income tax</b>					
Could find information	77.5	79.3	75.8	3.4	3.4
Could not find information	22.5	20.7	24.2	-3.4	3.4
<b>Reputation of persons in that occupation</b>					
Could find information	62.0	60.9	63.1	-2.2	4.0
Could not find information	38.0	39.1	36.9	2.2	4.0
<b>Years of schooling required</b>					
Could find information	95.5	95.0	96.1	-1.1	1.7
Could not find information	4.5	5.0	3.9	1.1	1.7
<b>Opinion of friends</b>					
Could find information	86.6	86.0	87.3	-1.3	2.8
Could not find information	13.4	14.0	12.7	1.3	2.8
<b>Sample size</b>					
	607	300	307		

<b>Table 3-3: Impact of LMI package on perceptions and attitudes (%)</b>						
	<b>Total</b>	<b>Program</b>	<b>Control</b>	<b>Diff.</b>	<b>Signif.</b>	<b>S.E.</b>
<b>I am confident in my job search abilities.</b>						
Strongly Agree	22.5	20.1	24.7	-4.6		3.4
Agree	61.3	63.1	59.5	3.6		4.0
Disagree	14.7	16.4	13.0	3.3		2.9
Strongly Disagree	1.5	0.3	2.7	-2.3 **		1.0
<b>Univ. Graduates no better off than they would have been in first place.</b>						
Strongly Agree	6.8	4.1	9.4	-5.3 **		2.1
Agree	15.4	12.0	18.7	-6.7 **		3.0
Disagree	35.0	35.6	34.4	1.2		3.9
Strongly Disagree	42.8	48.3	37.5	10.8 ***		4.1
<b>Starting salaries are about the same, regardless of the level of education someone has.</b>						
Strongly Agree	3.0	1.7	4.3	-2.7 *		1.4
Agree	15.6	13.1	18.1	-4.9 *		3.0
Disagree	45.0	45.5	44.5	1.0		4.1
Strongly Disagree	36.4	39.7	33.1	6.6 *		3.9
<b>I keep current about labour market trends and issues.</b>						
Strongly Agree	3.3	3.1	3.5	-0.4		1.5
Agree	36.7	37.8	35.6	2.2		4.0
Disagree	47.2	47.6	46.8	0.7		4.2
Strongly Disagree	12.8	11.5	14.1	-2.5		2.8
<b>People with more education can find a new job more easily.</b>						
Strongly Agree	25.9	29.8	22.2	7.6 **		3.6
Agree	45.9	47.4	44.4	3.0		4.1
Disagree	22.7	19.0	26.2	-7.1 **		3.4
Strongly Disagree	5.6	3.8	7.3	-3.5 *		1.9
<b>If I had the chance to counsel a young person, I would encourage them to go to College or University.</b>						
Strongly Agree	65.6	72.5	58.6	13.8 ***		3.9
Agree	29.7	22.8	36.6	-13.8 ***		3.7
Disagree	3.2	3.4	3.1	0.3		1.4
Strongly Disagree	1.5	1.3	1.7	-0.4		1.0
<b>People who take trades training usually don't earn any more than those with a high school diploma.</b>						
Strongly Agree	2.5	1.8	3.1	-1.4		1.3
Agree	8.8	7.5	10.1	-2.6		2.4
Disagree	42.5	42.9	42.2	0.7		4.2
Strongly Disagree	46.2	47.9	44.6	3.3		4.2
<b>No matter how much education I get, I am likely to end up in a low- paying job.</b>						
Strongly Agree	1.9	0.3	3.4	-3.1 ***		1.1
Agree	7.0	7.6	6.5	1.1		2.1
Disagree	34.1	32.4	35.8	-3.4		3.9
Strongly Disagree	57.0	59.7	54.3	5.4		4.1
<b>It would be better for my child to go to university than to take a trade.</b>						
Strongly Agree	22.7	24.2	21.1	3.1		3.7
Agree	24.6	25.3	23.8	1.5		3.8
Disagree	41.3	41.1	41.4	-0.3		4.3
Strongly Disagree	11.5	9.4	13.7	-4.2		2.8

<b>It is important that I get as much education and training as I can.</b>					
Strongly Agree	51.3	56.2	46.3	9.9 **	4.1
Agree	40.8	36.0	45.6	-9.6 **	4.0
Disagree	7.1	6.4	7.7	-1.3	2.1
Strongly Disagree	0.8	1.3	0.3	1.0	0.7
<b>Average life satisfaction score</b>	7.2	7.2	7.2	0.0	0.2
<b>Sample size</b>	607	300	307		

## Appendix 4: LMK Survey scoring key

LMK\_Q01

**If you were looking for a job or considering a career change next week, where would you go for information? (Choose the first, second and third place you would look).**

- 1) Parents
- 2) Friends/Colleagues
- 3) Employment counsellor at community agencies
- 4) Government web site
- 5) Want ads in newspapers
- 6) Private web sites (i.e. Monster.ca)
- 7) Career centre at educational institution
- 8) News stories
- 9) Other
- 99) Don't Know

*Scoring: If 99 on any of three responses score is "0"; otherwise score is "1".*

*Domain: Competency.*

LMK\_Q02

**For this section please answer whether you Strongly Agree, Agree, Disagree, or Strongly Disagree with each statement.**

**I am confident in my job search abilities.**

- 1) Strongly Agree
- 2) Agree
- 3) Disagree
- 4) Strongly Disagree
- 99) Don't Know

*Scoring: 1 for responses 1 or 2; 0 for responses 3-5*

*Domain: Attitude.*

LMK\_Q02a

**Labour Market Information is only useful when someone is searching for a job.**

- 1) Strongly Agree
- 2) Agree
- 3) Disagree
- 4) Strongly Disagree
- 99) Don't Know

*Scoring: 1 for responses 3 or 4; 0 for responses 1,2 or 99*

*Domain: Not included in subscales.*

LMK\_Q03

**Most university graduates that finish with student debt take a long time to pay it off. In the end, they are no better off than they would have been had they not gone in the first place.**

- 1) Strongly Agree
- 2) Agree
- 3) Disagree
- 4) Strongly Disagree
- 99) Don't Know

*Scoring: 1 for responses 3 or 4; 0 for responses 1,2 or 99*

*Domain: Perceptions.*

LMK\_Q04

**In general, starting salaries are about the same, regardless of the level of education someone has.**

- 1) Strongly Agree
- 2) Agree
- 3) Disagree
- 4) Strongly Disagree
- 99) Don't Know

*Scoring: 1 for responses 3 or 4; 0 for responses 1,2 or 99*

*Domain: Perceptions.*

LMK\_Q05

**I keep current about labour market trends and issues.**

- 1) Strongly Agree
- 2) Agree
- 3) Disagree
- 4) Strongly Disagree
- 99) Don't Know

*Scoring: 1 for responses 1 or 2; 0 for responses 3,4 or 99*

*Domain: Attitude.*

LMK\_Q06

**People with more education can find a new job more easily.**

- 1) Strongly Agree
- 2) Agree
- 3) Disagree
- 4) Strongly Disagree
- 99) Don't Know

*Scoring: 1 for responses 1 or 2; 0 for responses 3,4 or 99*

*Domain: Perceptions.*

LMK\_Q07

**If I had the chance to counsel a young person, I would encourage them to go to College or University.**

- 1) Strongly Agree
- 2) Agree
- 3) Disagree
- 4) Strongly Disagree
- 99) Don't Know

*Scoring: 1 for responses 1 or 2; 0 for responses 3,4 or 99*

*Domain: Perceptions.*

LMK\_Q08

**People who take trades training usually don't earn any more in a lifetime than those with a high school diploma.**

- 1) Strongly Agree
- 2) Agree
- 3) Disagree
- 4) Strongly Disagree
- 99) Don't Know

*Scoring: 1 for responses 3 or 4; 0 for responses 1,2 or 99*

*Domain: Perceptions.*

LMK\_Q09

**No matter how much education I get, I am likely to end up in a low- paying job.**

- 1) Strongly Agree
- 2) Agree
- 3) Disagree
- 4) Strongly Disagree
- 99) Don't Know

*Scoring: 1 for responses 3 or 4; 0 for responses 1,2 or 99*

*Domain: Perceptions.*

LMK\_Q10 Deleted prior to study start.

LMK\_Q11

**It would be better for my child to go to university than to take a trade.**

- 1) Strongly Agree
- 2) Agree
- 3) Disagree
- 4) Strongly Disagree
- 99) Don't Know

*Scoring: N/A. Content and responses subjective.*



LMK\_Q11a

**It is important that I get as much education and training as I can.**

- 1) Strongly Agree
- 2) Agree
- 3) Disagree
- 4) Strongly Disagree
- 99) Don't Know

*Scoring: 1 for responses 1 or 2; 0 for responses 3,4 or 99*

*Domain: Perceptions.*

LMK\_Q12

**Please select two of the following employers in Ottawa who are likely to have a strong demand for new employees:**

- 1) Government
- 2) Hospitals
- 3) Hotels and Restaurants
- 4) Transportation Companies
- 5) Farms
- 6) Technology Companies
- 7) Manufacturing Companies
- 99) Don't Know

*Scoring: 1 for responses 1,2 or 6; 0 for responses 3,4,5,7 or 99; two responses allowed*

*Domain: Knowledge.*

LMK\_Q13

**The average annual earnings for a worker age 45 to 54 in Canada is \$45,500<sup>1</sup>. Please make your best guess of the range that describes the average salary of a worker (age 45-54) with the following levels of education:**

LMK\_Q13a

**Less than high school.**

- 1) <\$30,000
- 2) \$30,000 to \$40,000
- 3) \$40,000 to \$50,000
- 4) \$50,000 to \$60,000
- 5) \$60,000 to \$70,000
- 6) \$70,000 to \$80,000
- 7) \$80,000 or more
- 99) Don't Know

*Scoring: 1 for responses 1 or 2; 0 for responses 3-7 or 99*

*Domain: Knowledge.*

---

<sup>1</sup> 2006 Census of Canada. Income by highest level of education required for answer key is not yet available for 2006 Census; therefore, correct answers to all parts of Question 13 were derived from 2001 Census data indexed.

LMK\_Q13b

**High school graduation certificate and/or some postsecondary**

- 1) <\$30,000
- 2) \$30,000 to \$40,000
- 3) \$40,000 to \$50,000
- 4) \$50,000 to \$60,000
- 5) \$60,000 to \$70,000
- 6) \$70,000 to \$80,000
- 7) \$80,000 or more
- 99) Don't Know

*Scoring: 1 for responses 2 or 3; 0 for responses 1,4-7 or 99*

*Domain: Knowledge.*

LMK\_Q13c

**Trades certificate or diploma**

- 1) <\$30,000
- 2) \$30,000 to \$40,000
- 3) \$40,000 to \$50,000
- 4) \$50,000 to \$60,000
- 5) \$60,000 to \$70,000
- 6) \$70,000 to \$80,000
- 7) \$80,000 or more
- 99) Don't Know

*Scoring: 1 for responses 2 or 3; 0 for responses 1,4-7 or 99*

*Domain: Knowledge.*

LMK\_Q13d

**College certificate or diploma**

- 1) <\$30,000
- 2) \$30,000 to \$40,000
- 3) \$40,000 to \$50,000
- 4) \$50,000 to \$60,000
- 5) \$60,000 to \$70,000
- 6) \$70,000 to \$80,000
- 7) \$80,000 or more
- 99) Don't Know

*Scoring: 1 for responses 3 or 4; 0 for responses 1,2,5-7 or 99*

*Domain: Knowledge.*

LMK\_Q13e

**University certificate, diploma or degree**

- 1) <\$30,000
- 2) \$30,000 to \$40,000
- 3) \$40,000 to \$50,000
- 4) \$50,000 to \$60,000
- 5) \$60,000 to \$70,000
- 6) \$70,000 to \$80,000
- 7) \$80,000 or more
- 99) Don't Know

*Scoring: 1 for responses 4-6; 0 for responses 1-3,7 or 99*

*Domain: Knowledge.*

LMK\_Q14

**The average unemployment rate in Canada in December 2007 was 5.9% for all workers. Please indicate whether the unemployment rate for people with the following levels of education is Much Lower, Lower, About Equal, Higher or Much Higher than the overall average<sup>2</sup>.**

LMK\_Q14a

**Less Than High School**

- 1) Much Lower
- 2) Lower
- 3) About Equal
- 4) Higher
- 5) Much Higher
- 99) Don't Know

*Scoring: 1 for responses 4 or 5; 0 for responses 1-3 or 99*

*Domain: Knowledge.*

LMK\_Q14b

**High School Graduate**

- 1) Much Lower
- 2) Lower
- 3) About Equal
- 4) Higher
- 5) Much Higher
- 99) Don't Know

*Scoring: 1 for response 3; 0 for responses 1,2,4,5 or 99*

*Domain: Knowledge.*

---

<sup>2</sup> Source: CANSIM table: Labour Force Survey, December 2007.

LMK\_Q14c

**Postsecondary certificate or diploma**

- 1) Much Lower
- 2) Lower
- 3) About Equal
- 4) Higher
- 5) Much Higher
- 99) Don't Know

*Scoring: 1 for responses 1 or 2; 0 for responses 3-5 or 99*

*Domain: Knowledge.*

LMK\_Q14d

**University Bachelor's Degree**

- 1) Much Lower
- 2) Lower
- 3) About Equal
- 4) Higher
- 5) Much Higher
- 99) Don't Know

*Scoring: 1 for responses 1 or 2; 0 for responses 3-5 or 99*

*Domain: Knowledge.*

LMK\_Q14e

**University Degree above a Bachelor's**

- 1) Much Lower
- 2) Lower
- 3) About Equal
- 4) Higher
- 5) Much Higher
- 99) Don't Know

*Scoring: 1 for responses 1 or 2; 0 for responses 3-5 or 99*

*Domain: Knowledge.*

LMK\_Q15

**What is the current unemployment rate in Ottawa in relation to the Canadian average<sup>3</sup>? Is it...**

- 1) Much Lower
- 2) Lower
- 3) About Equal
- 4) Higher
- 5) Much Higher
- 99) Don't Know

*Scoring: 1 for response 2; 0 for responses 1, 3-5 or 99*

*Domain: Knowledge.*

---

<sup>3</sup> Source : December 2007, 3-month average ; <http://www.statcan.ca/english/freepub/71-001-X1E/2007012/tablesectionlist.htm>

LMK\_Q15a

**Ontario's unemployment rate has increased from December 2006 to December 2007. Does that make it Easier to find work, Harder to find work or About the same?**

- 1) Easier to find work
- 2) Harder to find work
- 3) About the same
- 99) Don't Know

*Scoring: 1 for response 2; 0 for responses 1,3 or 99*

*Domain: Knowledge.*

LMK\_Q16txt

**Please give the minimum level of education usually required for the following occupations.<sup>4</sup>**

LMK\_Q16a

**Plumber**

- 1) High School
- 2) Apprenticeship
- 3) College degree, diploma or certificate
- 4) University Bachelor's Degree
- 5) University Master's Degree
- 99) Don't Know

*Scoring: 1 for response 2; 0 for responses 1,3-5 or 99*

*Domain: Knowledge.*

LMK\_Q16b

**Social Worker**

- 1) High School
- 2) Apprenticeship
- 3) College degree, diploma or certificate
- 4) University Bachelor's Degree
- 5) University Master's Degree
- 99) Don't Know

*Scoring: 1 for responses 3 or 4; 0 for responses 1,2,5 or 99*

*Domain: Knowledge.*

---

<sup>4</sup> Source: <http://www.jobfutures.ca/noc/7251p2.shtml>

LMK\_Q16c

**Medical Laboratory Technologist**

- 1) High School
- 2) Apprenticeship
- 3) College degree, diploma or certificate
- 4) University Bachelor's Degree
- 5) University Master's Degree
- 99) Don't Know

*Scoring: 1 for response 3; 0 for responses 1,2,4,5 or 99*

*Domain: Knowledge.*

LMK\_Q16d

**Bus Driver**

- 1) High School
- 2) Apprenticeship
- 3) College degree, diploma or certificate
- 4) University Bachelor's Degree
- 5) University Master's Degree
- 99) Don't Know

*Scoring: 1 for response 1; 0 for responses 2-5 or 99*

*Domain: Knowledge.*

LMK\_Q17

**Consider this situation.**

**Claudia went to university to become an electrical engineer.**

**It cost her approximately \$140,000 to get a five-year degree in electrical engineering. This includes tuition, books and the earnings she lost by not getting a job straight out of high school.**

**As an electrical engineer, Claudia is expected to make \$2.3 million over her working life. This is approximately \$900,000 more than she would have made if she had started working straight out of high school. This represents a 15% annual rate of return on her investment in a university degree.**

**Please mark whether you Strongly Agree, Agree, Disagree or Strongly Disagree with the following statements:**

LMK\_Q17a

**It was financially worthwhile for Claudia to get a degree in electrical engineering.**

- 1) Strongly Agree
- 2) Agree
- 3) Disagree
- 4) Strongly Disagree
- 99) Don't Know

*Scoring: 1 for responses 1 or 2; 0 for responses 3,4 or 99*

*Domain: Competency.*

LMK\_Q17b

**Claudia would have been better off investing in Canada Savings Bonds paying 4% annual interest.**

- 1) Strongly Agree
- 2) Agree
- 3) Disagree
- 4) Strongly Disagree
- 99) Don't Know

*Scoring: 1 for responses 3 or 4; 0 for responses 1,2 or 99*

*Domain: Competency.*

LMK\_Q17c

**This was only a good investment if Claudia didn't have to pay back any student loans.**

- 1) Strongly Agree
- 2) Agree
- 3) Disagree
- 4) Strongly Disagree
- 99) Don't Know

*Scoring: 1 for responses 3 or 4; 0 for responses 1,2 or 99*

*Domain: Competency.*

LMK\_Q17d

**Becoming an engineer was not worthwhile because Claudia will have to pay much more in income taxes.**

- 1) Strongly Agree
- 2) Agree
- 3) Disagree
- 4) Strongly Disagree
- 99) Don't Know

*Scoring: 1 for responses 3 or 4; 0 for responses 1,2 or 99*

*Domain: Competency.*

LMK\_Q18

**What impact would each of the following situations have on job prospects or wages in the occupations listed below?**

Situation 1

**The aging of the population.**

LMK\_Q18a

**Financial Advisor**

- 1) Positive impact
- 2) Negative impact
- 3) Little or no impact
- 99) Don't Know

*Scoring: 1 for response 1; 0 for responses 2,3 or 99*

*Domain: Competency.*

LMK\_Q18b

**Elementary School Teacher**

- 1) Positive impact
- 2) Negative impact
- 3) Little or no impact
- 99) Don't Know

*Scoring: 1 for response 2; 0 for responses 1,3 or 99*

*Domain: Competency.*

LMK\_Q18c

**Cooks and Chefs**

- 1) Positive impact
- 2) Negative impact
- 3) Little or no impact
- 99) Don't Know

*Scoring: 1 for response 1; 0 for responses 2,3 or 99*

*Domain: Competency.*

LMK\_Q18d

**Nurse**

- 1) Positive impact
- 2) Negative impact
- 3) Little or no impact
- 99) Don't Know

*Scoring: 1 for response 1; 0 for responses 2,3 or 99*

*Domain: Competency.*



LMK\_Q18e

**Construction Worker**

- 1) Positive impact
- 2) Negative impact
- 3) Little or no impact
- 99) Don't Know

*Scoring: 1 for response 1; 0 for responses 2,3 or 99*

*Domain: Competency.*

Situation 2

**Oil prices are expected to double over the next five years.  
What impact would this have on the occupations listed below?**

LMK\_Q19a

**Heavy Machine Operator**

- 1) Positive impact
- 2) Negative impact
- 3) Little or no impact
- 99) Don't Know

*Scoring: 1 for response 1; 0 for responses 2,3 or 99*

*Domain: Competency.*

LMK\_Q19b

**Flight Attendant**

- 1) Positive impact
- 2) Negative impact
- 3) Little or no impact
- 99) Don't Know

*Scoring: 1 for response 2; 0 for responses 1,3 or 99*

*Domain: Competency.*

LMK\_Q19c

**School Teacher**

- 1) Positive impact
- 2) Negative impact
- 3) Little or no impact
- 99) Don't Know

*Scoring: 1 for response 3; 0 for responses 1,2 or 99*

*Domain: Competency.*

LMK\_Q19d

**Pipe Fitter**

- 1) Positive impact
- 2) Negative impact
- 3) Little or no impact
- 99) Don't Know

*Scoring: 1 for response 1; 0 for responses 2,3 or 99*

*Domain: Competency.*

LMK\_Q19e

**Nuclear Engineer**

- 1) Positive impact
- 2) Negative impact
- 3) Little or no impact
- 99) Don't Know

*Scoring: 1 for response 1; 0 for responses 2,3 or 99*

*Domain: Competency.*

LMK\_Q20

Situation 3

**Labour shortages are being reported in the construction industry.  
What impact would this have on the occupations listed below?**

LMK\_Q20a

**Physiotherapist**

- 1) Positive impact
- 2) Negative impact
- 3) Little or no impact
- 99) Don't Know

*Scoring: 1 for response 3; 0 for responses 1,2 or 99*

*Domain: Competency.*

LMK\_Q20b

**Crane Operator**

- 1) Positive impact
- 2) Negative impact
- 3) Little or no impact
- 99) Don't Know

*Scoring: 1 for response 1; 0 for responses 2,3 or 99*

*Domain: Competency.*

LMK\_Q20c

**Plumber**

- 1) Positive impact
- 2) Negative impact
- 3) Little or no impact
- 99) Don't Know

*Scoring: 1 for response 1; 0 for responses 2,3 or 99*

*Domain: Competency.*

LMK\_Q20d

**Biologist**

- 1) Positive impact
- 2) Negative impact
- 3) Little or no impact
- 99) Don't Know

*Scoring: 1 for response 3; 0 for responses 1,2 or 99*

*Domain: Competency.*

LMK\_Q20e

**Journalist**

- 1) Positive impact
- 2) Negative impact
- 3) Little or no impact
- 99) Don't Know

*Scoring: 1 for response 3; 0 for responses 1,2 or 99*

*Domain: Competency.*

LMK\_Q21

**What type of information do you think is important in order to help you choose a career? Indicate your choice of “Important” or “Not Important” for each.**

	<b>Important (1)</b>	<b>Not Important (2)</b>
The unemployment rate for occupations you are interested in (LMK_Q21a)		
Average salary by occupation (LMK_Q21b)		
Employment Insurance Regulations (LMK_Q21c)		
Knowledge of emerging sectors in the Canadian economy (LMK_Q21d)		
Provincial levels of income tax (LMK_Q21e)		
Reputation of individuals who work in this occupation (LMK_Q21f)		
Number of years of schooling required (LMK_Q21g)		
Opinion of friends (LMK_Q21h)		

*Scoring: 1 for “Important” responses to a,b,d and g; 0 for “Not Important” response to the same questions. 1 for “Not Important” responses to e,f and h; 0 for “Important” response to the same questions.*

*Domain: Competency.*

LMK\_Q22

**If you were looking for each of these types of information, could you find them, or not?**

	<b>Could find information (1)</b>	<b>Could NOT find information (2)</b>
The unemployment rate for occupations you are interested in (LMK_Q22a)		
Average salary by occupation (LMK_Q22b)		
Employment Insurance Regulations (LMK_Q22c)		
Knowledge of emerging sectors in the Canadian economy (LMK_Q22d)		
Provincial levels of income tax (LMK_Q22e)		
Reputation of individuals who work in this occupation (LMK_Q22f)		
Number of years of schooling required (LMK_Q22g)		
Opinion of friends (LMK_Q22h)		

*Scoring: 1 for “Could find information” responses to a,b,d and g; 0 for “Could not find information” response to the same questions.*

*The remainder of the survey questions are demographics and N/A for LMK scoring.*

*Domain: Competency.*

## Appendix 5: Multivariate analysis

**Table 1: Regression Results--Predictors of Labour Market Knowledge-Control Group (OLS Regression)**

Independent Variable	Dependent Variable Score on LMK	
	Coefficient	Standard Error
Intercept	35.81	1.04 ***
Born in Canada	1.85	0.84 **
Less than 26 Years	-2.50	0.82 ***
Male	0.90	0.66
Schooling Beyond High School	2.19	0.66 ***
Currently a Student	1.92	0.69 ***
Mother Tongue English	0.95	0.80
R <sup>2</sup>	0.10	
Adj. R <sup>2</sup>	0.08	

Sample Size= 307

**Table 2a: Regression Results--Predictors of Labour Market Knowledge-Control Group. Including CLE Result. (OLS Regression)**

Independent Variable	Dependent Variable Score on LMK	
	Coefficient	Standard Error
Intercept	34.95	1.01 ***
Born in Canada	1.50	0.80 *
Less than 26 Years	-2.32	0.78 ***
Male	0.93	0.63
Schooling Beyond High School	1.53	0.64 **
Currently a Student	1.84	0.66 ***
Mother Tongue English	0.53	0.77
High CLE	3.57	0.64 ***
R <sup>2</sup>	0.18	
Adj. R <sup>2</sup>	0.16	

Sample Size= 307

**Table 2b: Regression Results--Predictors of Labour Market Knowledge-Control Group. Including Prose Result. (OLS Regression)**

Independent Variable	Dependent Variable Score on LMK	
	Coefficient	Standard Error
Intercept	37.16	1.05 ***
Born in Canada	1.65	0.81 **
Less than 26 Years	-2.36	0.79 ***
Male	1.44	0.64 **
Schooling Beyond High School	1.61	0.65 **
Currently a Student	2.03	0.67 ***
Mother Tongue English	0.73	0.78
Prose Score 1	-4.56	1.12 ***
Prose Score 2	-2.78	0.74 ***
R <sup>2</sup>	0.17	
Adj. R <sup>2</sup>	0.15	

Sample Size= 307

**Table 2c: Regression Results--Predictors of Labour Market Knowledge-Control Group. Including Document Result. (OLS Regression)**

Independent Variable	Dependent Variable Score on LMK	
	Coefficient	Standard Error
Intercept	38.66	1.10 ***
Born in Canada	1.20	0.80
Less than 26 Years	-2.59	0.77 ***
Male	0.74	0.62
Schooling Beyond High School	1.36	0.64 **
Currently a Student	1.89	0.65 ***
Mother Tongue English	0.47	0.76
Document Score 1	-5.33	1.00 ***
Document Score 2	-3.51	0.77 ***
R <sup>2</sup>	0.20	
Adj. R <sup>2</sup>	0.18	

Sample Size= 307

**Table 2d: Regression Results--Predictors of Labour Market Knowledge-Control Group. Including Quantitative Result. (OLS Regression)**

Independent Variable	Dependent Variable Score on LMK	
	Coefficient	Standard Error
Intercept	36.83	1.04 ***
Born in Canada	1.78	0.81 **
Less than 26 Years	-2.34	0.79 ***
Male	0.91	0.63
Schooling Beyond High School	1.71	0.64 ***
Currently a Student	1.88	0.66 ***
Mother Tongue English	0.87	0.77
Quantitative Score 1	-6.61	1.30 ***
Quantitative Score 2	-2.02	0.85 **
R <sup>2</sup>	0.18	
Adj. R <sup>2</sup>	0.16	

Sample Size= 307

**Sources:**

Labour Market Knowledge Survey and CLE.

**Notes:**

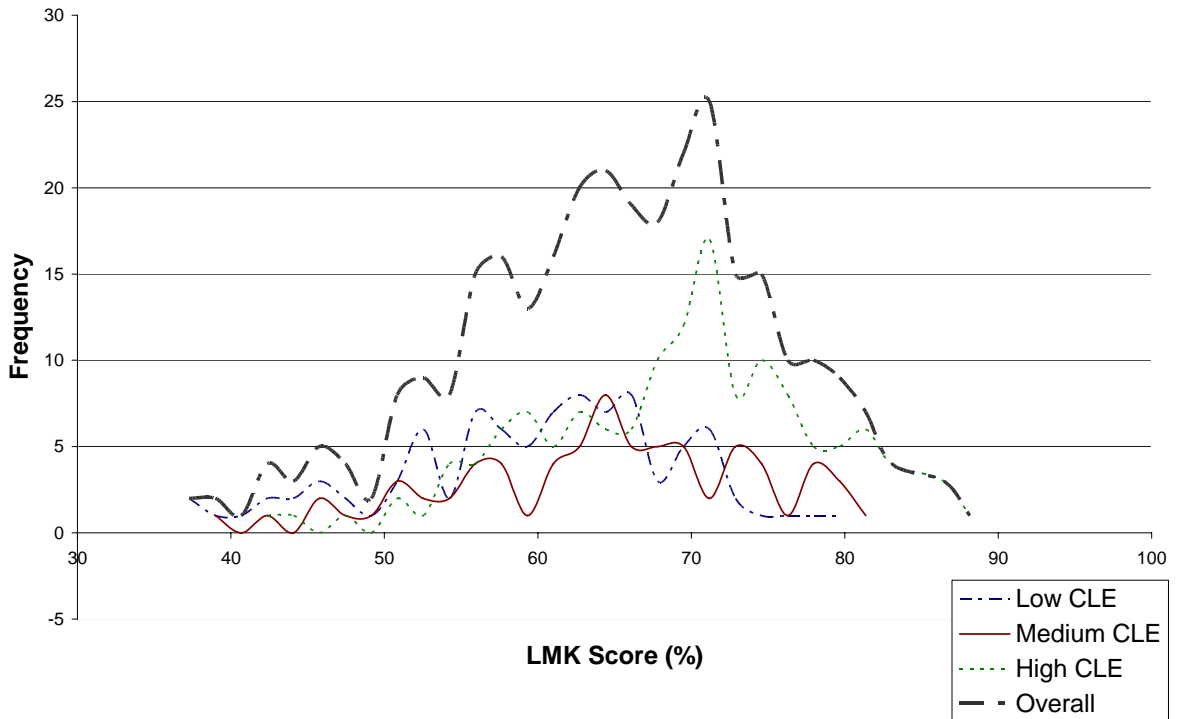
The reader should exercise caution in using this non-experimental regression to make a causal inference—for example, how much an increase in CLE score would affect the average LMK score.

Other factors such as ability may be related to both LMK and CLE—thereby CLE may be proxying for ability in this regression and thereby biasing the size of the coefficient on the average CLE score variable. Also the models assume a linear relationship between the dependent and independent variables--which might not be true in all cases.

Statistical significance levels are indicated as \*=10 per cent; \*\*=5 per cent; \*\*\*=1 per cent.



### Appendix 6: LMK Distribution by Literacy Level



**Source:** Labour Market Knowledge Survey and CLE.

**Notes:**

For the purposes of this chart high CLE is defined as 3+ on all three literacy subscales—prose, document and numeracy. Medium CLE is defined as 2 on one subscale and 3 on the other two. Low literacy is defined as anything below 2 on one subscale and 3 on the other two.

**Appendix 7: Relationship between labour market knowledge and literacy  
by prose, document and quantitative literacy**

**Table 1: Typology of labour market knowledge and literacy (control group only)-Prose**

	High literacy (CLE)	Low literacy (CLE)
High LMK	119 38.8%	39 12.7%
Low LMK	77 25.1%	72 23.5%
Total control group: 307 (100%)		

**Table 2: Typology of labour market knowledge and literacy (control group only)-Document**

	High literacy (CLE)	Low literacy (CLE)
High LMK	125 40.7%	33 10.7%
Low LMK	73 23.8%	76 24.8%
Total control group: 307 (100%)		

**Table 3: Typology of labour market knowledge and literacy (control group only)-Quantitative**

	High literacy (CLE)	Low literacy (CLE)
High LMK	136 44.3%	22 7.2%
Low LMK	99 32.2%	50 16.3%
Total control group: 307 (100%)		

For each of prose, document and quantitative, a chi-square test indicates that there is a statistically significant relationship between literacy and labour market knowledge.

**Sources:**

Labour Market Knowledge Survey and CLE.