

Literacy and Essential Skills in the Workplace: A Pan-Canadian Demonstration Project

Canadian Economics Association

June 2011



SOCIAL RESEARCH
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Policy Context

- ▶ **Increasing evidence of gaps in literacy and essential skills (LES) in the Canadian workforce**
- ▶ **Fairly pervasive in frontline positions in most Canadian industries**
- ▶ **Estimates range from 25–60 percent of workers with literacy scores LESS than required level in ES Profiles**

Estimated LES Gaps by industry

Industry/Occupation	No. Of Workers	% with score < ES Profile
Prime and Trade Contracting —Construction Trades	368,000	52
Manufacturing —Machine operators in food, textiles, wood, and plastics	137,000	63
Transportation —Operators	381,000	55
Protective services —all occupations	71,000	53
Accommodation Services —multiple frontline	148,000	40
Food services —sales and service	959,000	45
Repair and Maintenance —Technicians	125,000	51

Source: Calculations From IALSS and 2006 Canadian Census by DataAngel, 2009

Policy Context

- ▶ Increasing anecdotal evidence on the effectiveness of LES training to address these gaps
- ▶ However, in many industries investments of firms in workplace-based LES training is low
- ▶ **Sector Councils report fewer than 1 in 20 firms implement workplace essential skills**

Policy Context

Why don't firms invest in LES training?

- ▶ They don't speak the language of essential skills
- ▶ They don't think it's their responsibility
- ▶ Afraid of poaching from competing firms
- ▶ Think there are less costly ways to address gaps – through coping skills rather than literacy
- ▶ **Most reasons implicitly relate to the lack of a clear and credible link from LES gains to performance and business outcomes**

Goals of the Study

- ▶ **To measure the impacts of LES training** on workers and workplaces with the most reliable methods
- ▶ **To establish a clear business case** for LES training by measuring the returns to workers and firms
- ▶ **To understand the pattern of impacts** on different types of workers and firms
- ▶ **To understand the conditions** in which LES training can be most successful and strategically implemented

Central Policy Questions

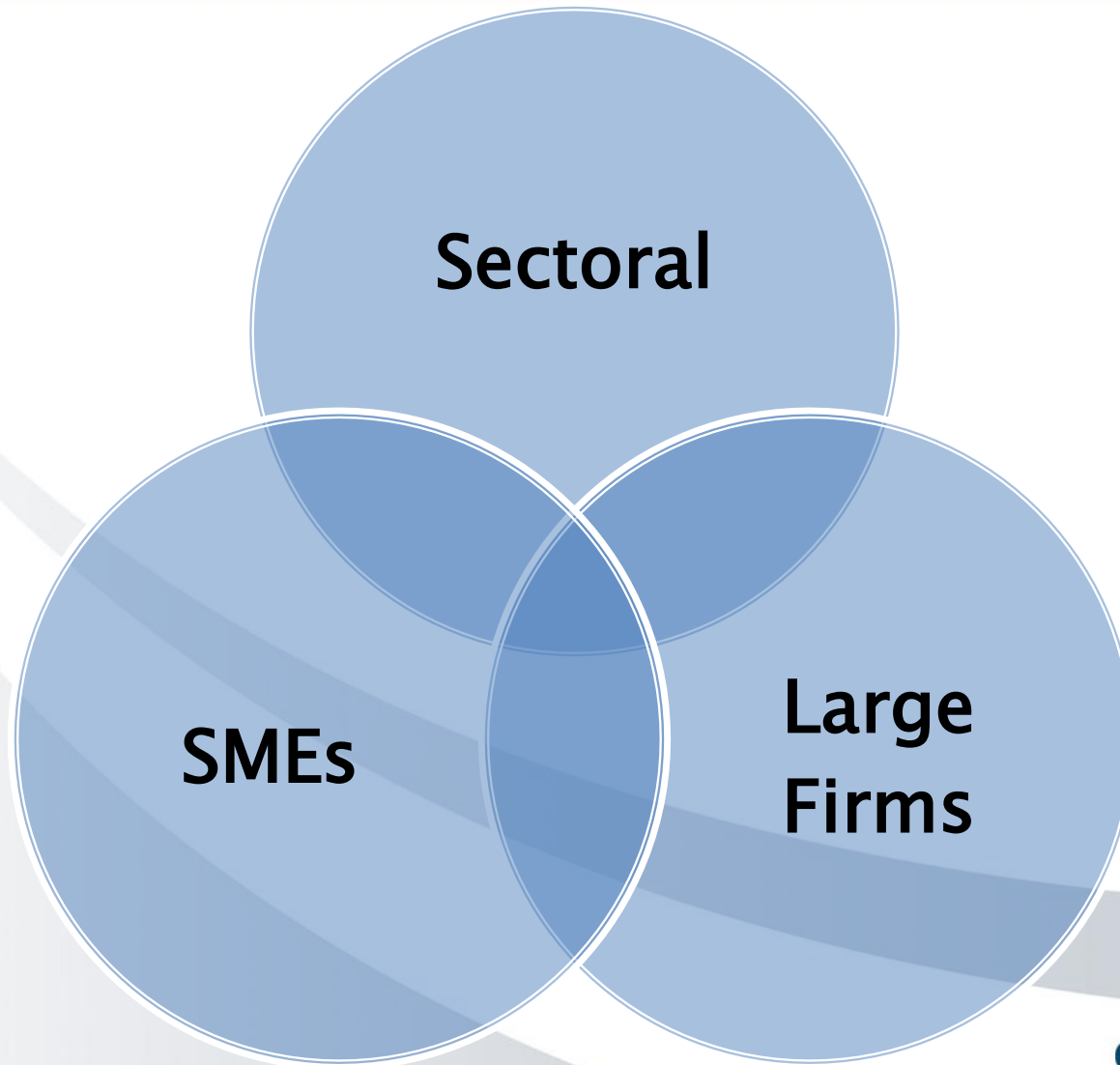
Does workplace Literacy and Essential Skills training...

- ...improve individual outcomes such as LES levels, self-confidence, further training success?
- ...lead to career advancement, wage growth?
- ...address job performance and business outcomes such as error rates and cost control, customer satisfaction and sales, or worker retention?
- ...lead to positive returns for individuals, firms, and governments, who make investments in LES training?

Program Model – Common Principles

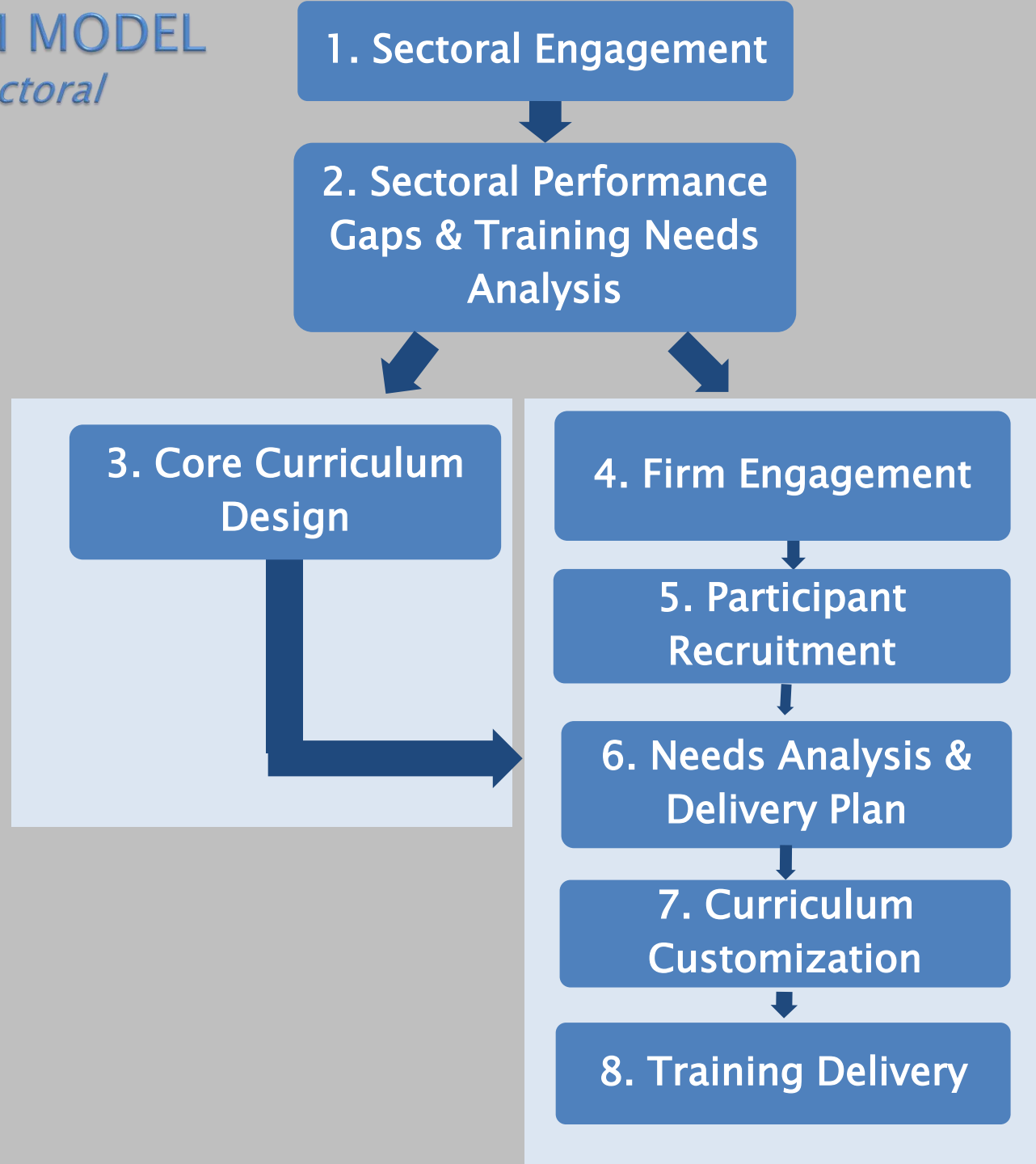
- ▶ Partnerships
- ▶ Voluntary
- ▶ Alignment
- ▶ Learning strategies
- ▶ Customization
- ▶ Qualified providers
- ▶ Flexible delivery methods
- ▶ Release time

LES Training Models – In Practice



THE PROGRAM MODEL

SME model with sectoral leveraging



Target Groups

- ✓ **Employed individuals**
- ✓ **Skill level** – Workers with Essential Skills levels that correspond roughly to mid to upper level 2, 250–275
- ✓ **Skill Gap** – Occupations that require Level 3 according to the ES Profiles
- ▶ **Choice of sectors, firms, and occupations guided by –**
 - The nature of the intended program model under evaluation
 - Sector conditions that facilitate the implementation
 - Sector conditions that minimize risks to the evaluation

Target Sector – Initial Screening

- ▶ **Preliminary screening of IALS and ES Profile data**
- ▶ **Identifies where deficits exist in Canadian industry**
 - Initial focus on workers with scores of between 250–275
 - Slightly less than required by job – shortage of <50 points
 - Applied a few additional criteria to ensure sectors would provide adequate sample size (workforce > 10,000, sufficient number of suitably sized firms)
 - Narrowed to about 10 sectors and few dozen occupations

Target Sector – Candidates

- ▶ **Manufacturing – Food, Wood, Plastics (NAICS 311, 321, 326)**
 - Machine Operators
 - Labourers
 - Assemblers in Manufacturing
- ▶ **Accommodation and Food Services (NAICS 721–722)**
 - Accommodation Services
 - Food and Beverage
 - Culinary – Chefs and Cooks
 - Cashiers
- ▶ **Protective Services (NAICS 561)**
 - Security Guards and Related Occupations
- ▶ **Repair and Maintenance Services (NAICS 811)**
 - Mechanics
 - Sales and Service Occupations

Target Sector – Candidates

- ▶ **Retail Trade (NAICS 44)**
 - Retail Sales Persons and Sales Clerks
 - Cashiers
- ▶ **Health, Residential Care, Social Assistance (NAICS 621, 624)**
 - Childcare and Home Support Workers
 - Assisting Occupations in Support of Health Care
- ▶ **Transportation (NAICS 48)**
 - Transportation Equipment Operators
- ▶ **Construction Industry (NAICS 23)**
 - Trades
 - Labourers
 - Heavy Equipment Operators

Sector Analysis and Engagement

- ▶ Conducted a comprehensive analysis of sector conditions to understand risks to the implementation and evaluation
- ▶ Process involved consultations with 10 sector groups and compilation and analysis of wide ranging industry data
- ▶ ***Implementation feasibility*** – potential partners, existing capacity for service delivery, existence of job standards, career–pathways, and a potential business case
- ▶ ***Evaluation feasibility*** – number, size, and structure of firms and target occupations; homogeneity and stability of firms and workers; likely internal and external validity

Why Accommodations in Tourism Sector?

- ▶ **Partnerships** – impressive national sector council and provincial HROs, receptive to project and partnership
- ▶ **Existing “infrastructure”** – many tools and well developed networks to support recruitment and service delivery
- ▶ **Standards and Certification** – existing job standards and certifications – we can build on performance validation
- ▶ **Potential Business Case**
 - LES gaps exist among workers in several key occupations
 - Low take-up and high fail rates in existing certification
 - LES curriculum will be a bridge in the existing “Career Journey”
 - Certification gives clear link to performance, business outcomes

Why Accommodations in Tourism Sector?

- ▶ **Internal Validity – Good conditions for success**
 - Large number of SMEs and workers in target occupations
 - Stable firms with desired structure – independent “flag” ops
 - Homogeneity is good relative to broader services sectors
 - Worker Stability – risk of exits lower than broader services

- ▶ **External Validity – Wide Applicability of Results**
 - Generalizable to most Tourism occupations and subsectors
 - Applicable to broader Retail Trade industry
 - Relevant to frontline positions in all broader Service sectors

Evaluation Design

- **Cluster Random Assignment (RA) Design**
- **Unit of Assignment:** Establishments
- **Unit of Analysis:** Worker and Work Sites
- **Target Samples Sizes**
 - N=800–1000 workers in 80–100 establishments*
 - Half will receive training (400–500 workers)*
- Should give sufficient power to detect impacts of 5–7pp
e.g. about a 10–point change on IALS scale; a 5 percent increase in a performance measure

Evaluation Design

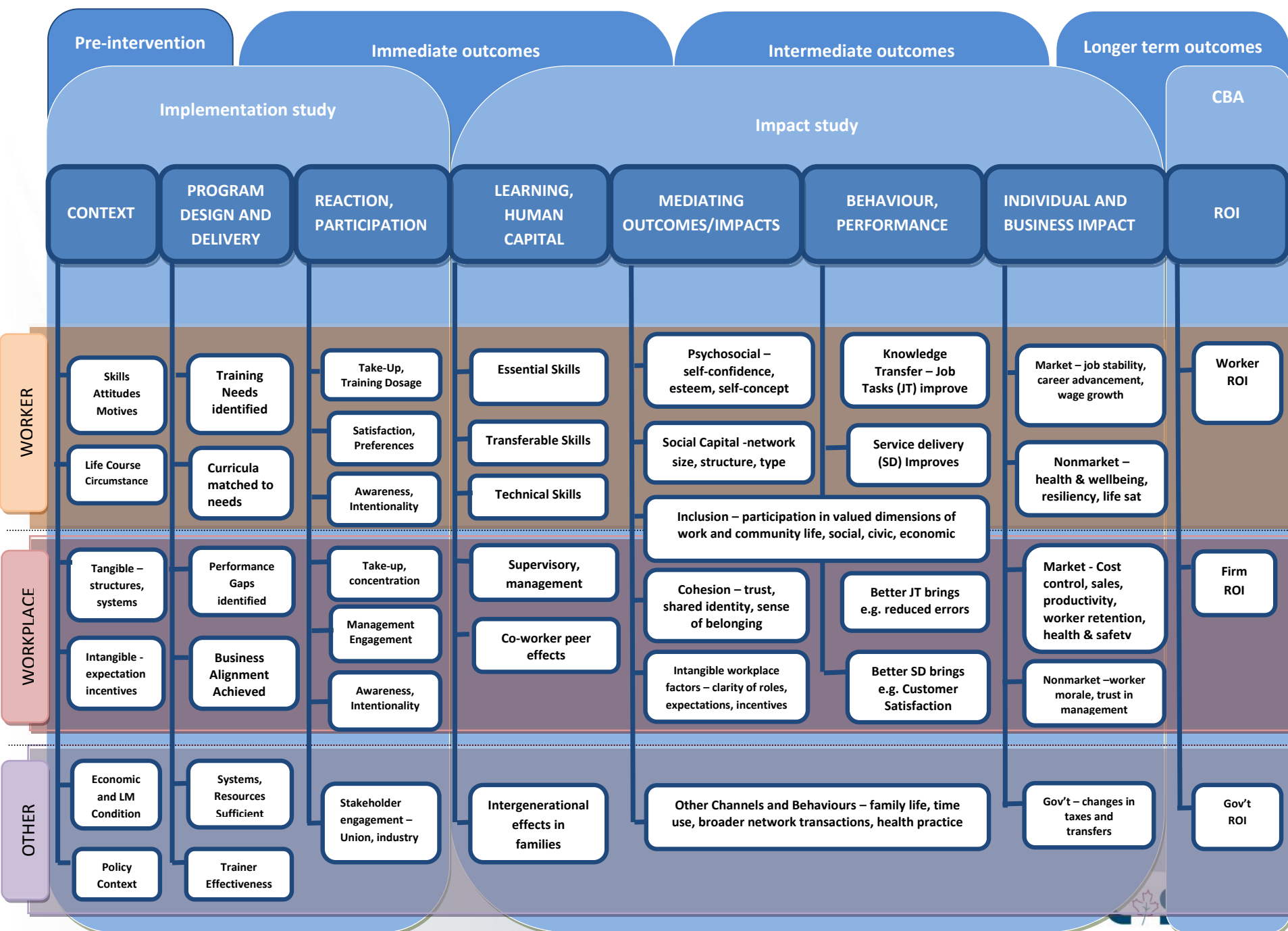
Primary Data Sources

➤ Implementation Research

- Qualitative Interviews, Field Observations, PMIS database
- Collection from months 1–4 in all establishments

➤ Impact Study, CBA

- *LES Assessment* – IALS–equivalent literacy measures
- *Performance* – Industry–approved Validation protocols
- *Mediating and Longer term Outcomes* – Supplementary Surveys
- Pre–Post collection– **Baseline, Month 3–4, Month 8–9**
(Pre–Training, immediately after, and 6 months later)
- CBA – costing data tracked throughout, along with time study



Evaluation Design

- **Implementation Research** – answers questions related to the influence of *context, delivery, and participation* on the size and pattern of impacts

Context – worker and workplace characteristics, broader economic/policy environment the model is implemented

Design, Delivery – implemented as planned (if not why not), systems/resources sufficient, curriculum/trainer effective

Participation, Reaction – take-up rates, “dosage”, participant stakeholder reaction (satisfaction, program knowledge)

Evaluation Design

- **Impact Study** – provides estimates of the size of effects of the LES intervention on outcomes of interest

Learning – literacy and essential skill gains

Mediating – a range of variables linking learning, performance, and longer-term impacts

Performance – Improved service quality and task efficiency

Business Impact – cost control, productivity, up-selling and repeat sales, health and safety, worker retention

Worker Impact – job stability, further learning, wage growth, social networks, job satisfaction, health and wellbeing

Evaluation Design

- **Cost-Benefit Study** – provides estimates of returns (ROI) to workers, firms, and government
- Draws on Impact study to isolate true incremental benefits
- Impacts are monetized and then combined with costing data
- Returns are calculated – % return, benefits per \$ spent

Project Organization

Engagement Team

- National Strategy
- Coordination
- Provincial Engagement
- Recruitment of Firms and Workers

Canadian Tourism
Human Resource
Council

Saskatchewan
STEC

Ontario
OTEC

Newfoundland &
Labrador
HNL

New Brunswick
TIANB

British Columbia
go2 and Douglas
College

Design and Education Team

- Exemplar Firm study
- Curriculum Design
- Professional Support to Trainers

SkillPlan

Performance and Delivery Team

- Organizational Needs Analysis
- Customization, Training Plans
- Training Delivery

- Exemplar Firm study
- Professional Support to Trainers
- Educator Network

Saskatchewan
STEC

Ontario
OTEC

Newfoundland &
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British Columbia
go2 and Douglas
College

Douglas College

Sector Engagement, Firm Recruitment

The First 9 Months

- ▶ Developed required partnerships, project branding, communications and operations material
- ▶ Implemented a wide range of engagement and recruitment strategies in each province
- ▶ 108 properties engaged – 62 confirmed to date
- ▶ Contributing approx 930 workers – 1200 targeted
- ▶ Performance Gap and Training needs analyses complete
- ▶ Core Curriculum has been developed

Firm Recruitment – Results

	TARGET	CONFIRMED	PENDING	DECLINED	PROSPECTS
BC – go2 DC	30	18	12	5	8
SK – STEC	15	11	1	1	6
ON – OTEC	20	13	16	3	15
NB – TIANB	8	8	0	1	2
NF – HNL	10	12	6	0	5
TOTALS	83	62	35	10	36

Timelines

- ▶ Recruitment ongoing through December 2011
- ▶ Implementation Report – Fall 2011
- ▶ Interim Impact Report – Summer 2012
- ▶ Training Delivery ends – Fall 2012
- ▶ Final Impact and Benefit–Cost Report – March 2013
- ▶ Call For Papers? – Earliest, Fall 2013