

# Adult learning dictionary

*Adult Learning and Returns to Training Project*

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**The Social Research and Demonstration**

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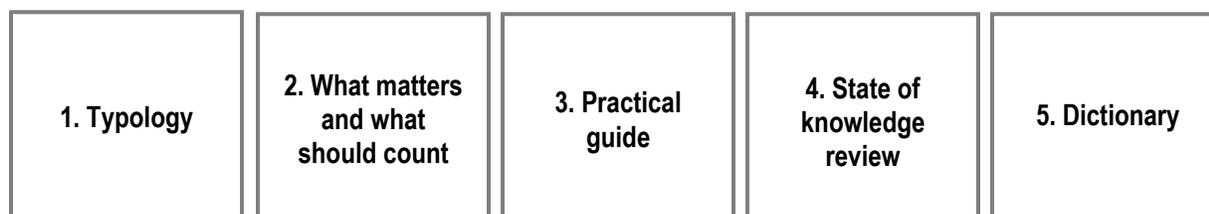
# Introduction

## Report purpose

The *Dictionary* is a glossary of key terms related to various types of adult learning activities and the measurement of their associated benefits. It is one in a series of papers that have informed the development of an analytical framework for the *Adult Learning and Returns to Training Project*. This larger project is a three-year multi-disciplinary and collaborative effort to further the knowledge base of conceptual, analytical and methodological issues concerning the scope and measurement of adult learning activities and their associated economic and non-economic returns to individuals, firms and society at large.

## Companion reports

The analytical framework for the *Adult Learning and Returns to Training Project* consists of five companion reports. The first report is the *Typology*. The *Typology* report proposes a typology of adult learning activities created for this project. The second report, *What Matters and What Should Count*, provides a high-level conceptual framework for understanding a wide range of outcomes associated with various types of adult learning. The third report, the *Practical Guide* is intended to be a user-friendly guide to understanding key methodological issues in the literature on returns to adult learning. The fourth piece is the *State of Knowledge Review*, which reviews the existing literature and summarizes what we know and do not know about the efficacy of various types of adult learning. This report is the fifth piece, which provides definitions for key concepts from all of the companion reports.



## Definitions of key terms

**Absenteeism:** Reduced absenteeism is a commonly reported firm outcome of workplace-related learning, often measured in terms of the number of days that employees are absent from work per year. Of particular interest within the context of adult learning is whether there a relationship between workers' participation in adult learning and an increase or decrease in absenteeism.

**Adult learner:** Includes all learners age 25 and older, and where possible, learners age 20 to 24 who are pursuing foundational learning, and learners age 20 to 24 who are in "adult social roles" such as heading a family or working full-time as a primary activity.

**Adult learning:** Broadly defined as purposeful and directed learning undertaken by adults, either alone or in groups, to increase knowledge and skills, and/or change behaviours, values, or beliefs.

**Average Treatment Effect (ATE):** Refers to the average impact of a program on all members of a given population.

**Average Treatment effect on the Treated (ATT):** Refers to the average impact of a program for those who choose to participate in the program.

**Bonding social capital:** Refers to relatively homogenous social networks connected primarily by close or strong ties.

**Bridging social capital:** Refers to social networks that include important connections with those unlike oneself, usually characterized by distant or weak ties. Our framework conceptualizes the development of bridging social capital in particular as a key intermediate outcome of adult learning that may play an intervening role in the realization of socio-economic long-term outcomes.

**Causal impact:** A program can be said to have a causal impact if participation directly leads to or causes an outcome. This is opposed to a correlation which identifies a relationship but where confounding variables for an outcome cannot be ruled out. The difference in outcomes with and without treatment is considered the impact.

**Civic engagement:** A broad concept that includes a variety of related to active citizenship, such as political awareness, voting, volunteering, newspaper readership, and participation in community meetings, events, and activities.

**Comparison group:** This is a group of individuals who have relevant observable baseline characteristics that are similar to characteristics of individuals in the treatment group, but who do not themselves receive treatment. Changes in outcomes for the treatment group are compared to changes in outcome from the comparison group. Distinct from a "control group," the term "comparison group" is used when there is no source of exogenous variation or researcher "control" for how individuals are determined to be eligible to participate in the program in question. In other words there is some element of self-selection in determining group status.

**Contact hours:** Refers to the number instructional hours in which a learner has contact with the program or course instructor. This may be hours spent in a classroom or one-on-one setting.

**Control group:** This is a group of individuals who are randomly assigned to a group that is not eligible to participate in the program under evaluation. Because individuals are randomly assigned to either the control or program group there is no statistically significant difference between individuals in either group. Having a control group allows comparisons by factoring out confounding variables so that any remaining differences may be attributed to program participation.

**Cost-benefit analysis:** Cost-benefit analysis is the primary tool that economists employ to determine whether a particular policy, or policy proposal, promotes economic efficiency. Conceptually cost benefit analysis is quite simple. It reduces all the costs and benefits of a proposed alternative to a common unit of impact, namely dollars. The purpose is not to price everything, but rather to order choices in a way that is informative about social choices for decision makers. At the most general and comprehensive level, cost-benefit analysis is an aggregator of all impacts, to all affected parties, at all points in time.

**Counterfactual:** an estimate of what relevant outcomes would have been in the absence of program participation.

**Credential:** A key dimension of, and possible output of, adult learning activities, and may be measured in terms of whether or not a credential has been earned, the education type and/or level (e.g., a college diploma), and/or the field of study (e.g., nursing).

**Criminal activity:** Reduced criminal activity is widely cited as a social outcome associated with higher levels of formal education. Reduced criminal activity is typically measured in terms of changes in crime rates and fiscal costs related to law enforcement and imprisonment.

**Delivery:** Refers to the methods of instruction, and includes such instructional approaches as traditional in-class instruction, use of multimedia, correspondence, and teacher-directed or self-paced learning. Many programs use a blend of delivery methods.

**Design:** Include such things as the learning goals, content, instructional materials, whether the program includes a work experience component. This is an area where further research is required to identify the elements that are most relevant to effective design.

**Difference-in-difference:** This is a quasi-experimental estimation of the difference in outcomes post-treatment versus pre-treatment for a treatment group, compared to the difference in outcomes for a comparison group, not receiving treatment, over that same period.

**Discount rate:** When costs and benefits occur at different points in time, discounting makes adjustments to facilitate intertemporal comparisons. The basic idea is that, after taking account of the time value of money, costs and benefits in the future are worth less today. Discounting, in effect, is the opposite of compounding interest on an investment, and it converts all future costs and benefits into their present value.

**Duration:** Refers broadly to time-related factors, such as the length (e.g., the number of months or years that the program/course spans), volume (e.g., the actual number of hours, days, or weeks spent participating in the activity) and intensity (e.g., hours per week/month, weeks per year) of the learning activity required for completion and/or actually taken before ending participation.

**Earnings:** Earnings are an individual's wages multiplied by the labour supply – i.e. the amount of time worked.

**Efficiency:** Efficiency can be simply defined as getting the most value from the resources available. The notion of efficiency includes technical efficiency, which means producing things of value in ways that involve giving up the smallest amounts of other things of value. More generally it is also concerned the allocation of resources to generate the largest aggregate value, as assessed by summing individual valuations across all members of society. A policy or policy alternative achieves optimal efficiency if no other policy can be identified that offers a larger excess of benefits over costs.

**Employment:** The condition of having paid work.

**Enabling and hindering factors:** Enabling and hindering factors are the broad array of contextual and environmental factors that may affect the attainment or the magnitude of an intermediate and/or final outcome, such as economic, public policy and institutional conditions.

**Everyday practices:** Changes in everyday practices are a widely cited intermediate outcome associated with adult participation in foundational learning. Everyday practices include a wide range of practices in which individuals engage in their everyday lives and may be measured in terms of changes in the frequency and/or complexity of practices such as literacy practices like reading the newspaper or reading to a child or conducting an internet search.

**Final outcome:** A final outcome is an outcome that is related to the fundamental purpose of implementing, providing, funding, or participating in the learning activity. A final outcome represents a change of state among beneficiaries and it may be the consequence of one or more intermediate outcomes. We distinguish between types of final outcomes depending on to whom they accrue: individuals (and their families), firms, or society/government. Outcomes that accrue to individuals, their families or their employers are considered private outcomes, while outcomes for governments and broader society are considered social outcomes. We also distinguish between outcomes depending on whether they are financial or non-financial.

**Financial outcomes:** Can be directly expressed as dollar figures such as earnings, sales revenues, and GDP.

**Firm outcomes:** Firm outcomes are outcomes experienced by the firm in which the learner is employed. Financial outcomes for firms are those that directly affect equity and profits and can include such things as changes in revenues or productivity. Non-financial outcomes that a firm may experience do not directly affect a firm's equity or profits, and may include such things as changes in workplace morale, social inclusion, improved manager-worker relations/trust, and a culture of learning.

**Form:** In general, learning activities can take four forms: formal, non-formal, informal, incidental.

**Formal learning:** A learning activity that is structured and sequentially organized in which learners follow a program of study or a series of experiences planned and directed by a teacher or trainer and generally leading to some formal recognition of educational performance, such as a certificate, license, diploma, or degree. Formal adult learning is provided in the system of schools, colleges, universities and other formal educational institutions that constitute a continuous "ladder" of full-time education.

**Foundational learning:** Provides instruction on the basic skills and learning strategies required for further learning or employment. This type of training is targeted to adults who left initial education without qualifications or who have qualifications but need to improve basic literacy, official language or employability skills or obtain a secondary education or college entry. Instruction is typically targeted to adults with skills levels that are below the Grade 12 level or below IALS level 3.

**Health behaviours and health outcomes:** The literature identifies health behaviours and health outcomes as major intermediate and final outcomes, respectively, associated with participation in formal education. Health behaviours include a wide range of individual actions such as smoking, exercising and nutrition that may influence health outcomes such as morbidity and mortality.

**Hierarchy of evidence:** A hierarchy of evidence offers a systematic way of ranking the strength of an intervention's findings. Specific research methods are ranked according to their scientific validity.

**Higher education:** Offered by post-secondary education institutions such as universities, colleges of applied arts and technology, and private career colleges, and offers a post-secondary credential. Programs usually take at least three months to complete, such as programs that provide a vocational skill such as fork lift operator or truck driver, and many are longer such as four year university degrees.

**Human capital:** Human capital is the stock of knowledge and skill that an individual possesses as a result of education, training, and experience. It is the most anticipated outcome of training since training is usually implemented with the intention of enhancing knowledge and skill.

**Incidental learning:** Happens randomly and is not intentional or planned. It may occur anywhere at any time. While we recognize that incidental learning may affect outcomes, it is difficult to capture empirically and difficult to influence through policy levers. Incidental learning is thus excluded from our definition of adult learning.

**Individual factors:** Individual factors are the range of personal and situational characteristics of learners that may affect the attainment or the magnitude of intermediate and/or final outcomes. Examples of individual factors include learner's age, sex, employment status, life circumstance, and skills.

**Individual outcomes:** Individual outcomes are outcomes experienced by the learner or the learner's family. The most common individual financial outcomes reported on in the adult learning literature are changes in employment, wages and earnings.

**Informal learning:** Learning that is less organized and less structured than either formal or non-formal learning. It involves no (or very little) reliance on pre-determined guidelines for its organization, delivery and assessment, although it must be undertaken with the specific intention to develop some skills or knowledge. Informal learning may include such activities as those that occur in the workplace (e.g., on-the-job training), and any other unstructured learning activities that may occur on a self-directed, family-directed, work-directed, or other basis.

**Innovation:** Increased innovation is sometimes cited as a final firm outcome of workplace-related learning. In particular, some studies explore whether there is a relationship between workers' participation in workplace-related training and the implementation of new hardware and software or

the introduction of new goods, services and processes at the firm who is offering the training to its employees.

**Inputs:** Financial and non-financial resources employed to provide/participate in the learning activity. Can be interpreted narrowly to include things like total expenditure per learner, class size, class materials, classroom hours and technology or more broadly to include things like degree of professionalization of instructors, instructors contracts, or delivery infrastructure.

**Instructor quality:** A key dimension of, and an input to, adult learning activities. Instructor quality can be measured in terms of the instructor's education level/type, training and years of experience.

**Instrument variables:** A quasi-experimental approach that identifies a factor that is exogenous to an outcome of interest, but is correlated with a program being studied. This factor is used as an instrument to study the relationship between program participation and the outcome of interest.

**Intergenerational effects:** Intergeneration effects are widely cited as major final outcomes associated with participation in formal education. Intergenerational effects commonly measured in the education literature include children's level of education, children's health outcomes, and children's criminality.

**Intermediate outcomes:** An intermediate outcome is the level of behaviours or characteristics measured following a learning activity that is not of value in itself, but valued because it supports the attainment of final outcomes. Intermediate outcomes of adult learning activities may include human capital, psychosocial capital and social capital, as well as changes in everyday behaviours and workplace practices.

**Job satisfaction:** Increased job satisfaction is a commonly reported outcome associated with participation in workplace-related learning. Job satisfaction can be measured by asking learners to report their level of satisfaction on a scale with respect to such things as: their sense of achievement in their work; the scope for using their own initiative; the influence they have over their job; the amount of training they receive; the amount of pay they receive; and how they find the work itself.

**Knowledge spillovers:** Viewed as a potential social outcome, knowledge spillovers refer to the possibility that increased education for some portion of the population creates spillover effects that help to foster a more capable, knowledgeable and innovative society overall. For example, some studies consider whether firms in cities which experience an increase in the proportion of college graduates are more productive than firms in cities in which there is no such influx.

**Labour force attachment:** Increased labour force attachment is a widely cited individual financial outcome associated with foundational adult learning. Labour force attachment can be measured by calculating the number of weeks or hours an individual spends working in a year.

**Labour market-related learning:** Learning that is undertaken for the purpose of improving labour market prospects, that is not foundational learning is not related to the firm in which the learner is employed, and does not lead to a formal post-secondary credential, although it may lead to other recognized credentials such as those offered by industry-recognized certification programs and career pathways offered outside of the post-secondary system.

**Learning activity:** The learning activity in which participants engage can be classified into five broad categories - foundational; higher education, workplace-related, labour market advancement, and personal/social.

**Life satisfaction:** Increased life satisfaction is cited as an individual non-financial outcome associated with participation in foundational adult learning. Increased life satisfaction can be measured in terms of how satisfied one has thus far been with their life, and how satisfied they anticipate being in the future.

**Local Average Treatment Effect (LATE):** Refers to the average impact of the program on individuals who change their behaviour and participate in a program as a result of policy or program change.

**Non- financial outcomes:** Are not directly expressed as dollar figures but are indicators of broader well being such as health status and social inclusion. Non-financial outcomes can often be “monetarized” in that they can be assigned a dollar value, although this generally requires sophisticated calculation techniques.

**Non-formal learning:** Structured learning that includes activities such as: participation in courses that are not part of a formal educational program; workshops; seminars; private lessons, and guided/organized workplace training. Non-formal learning may take place both within and outside educational institutions. It may cover educational programs to impart adult literacy, adult basic education, life-skills, work-skills, and general culture. Non-formal learning does not usually follow the “ladder” system that is characteristic of formal learning.

**Observational studies:** Unlike quasi-experimental studies observational studies lack an exogenous source of variation to exploit. The strongest observational studies still aim to construct a credible counterfactual using high quality comparison groups. Observational studies use a vast array of techniques such as fixed effects, hierarchical linear modeling, structural equation modeling and basic OLS regression.

**Outputs:** Outputs can be interpreted narrowly to include the immediate, tangible products and services of learning activities such as contact hours. Analyzing outputs can indicate the extent to which a learning activity was delivered and to which resources were used as intended.

**Payer:** The source(s) of financial assistance or in kind support. Examples of adult learning payers include the individual learner, an employer, a government, and a union.

**Personal/social learning:** Learning that is directed to individuals in the context of their families and communities for the purpose of personal, social, civic and/or cultural growth or enrichment. For the purposes of our typology, this category excludes: learning that is targeted to adults with skills below the Grade 12 level or IALS level 3, learning that leads to a post-secondary credential, learning that is related to one’s current job/firm, and learning that is directly labour market-related.

**Present value:** Cost-benefit analysis aims to put all relevant costs and benefits on a common temporal footing using time value of money formulas. Adjustments are made for the time value of money, so that all flows of benefits and flows of project costs over time are expressed on a common basis in terms of their “present value.” This is often done by converting the future expected streams of costs and benefits into a present value amount using a suitable discount rate.

**Productivity:** In general terms, productivity is the level of output generated relative to the level of input invested. Increased productivity – i.e. a higher ratio of output to input – is a desirable potential firm outcome which may be associated with increased levels of education or participation in adult learning. Early studies used wages a proxy for productivity. More recent studies use firm level indicators such as sales revenue.

**Provider:** The institution in which the adult learning activity occurs, or by whom the activity is directed. Examples of adult learning providers include secondary schools, colleges, universities, employers, unions, and community centres. Note that the actual deliverer (instructor/facilitator) of the learning activity need not necessarily be the provider.

**Psychosocial capital:** Learning activities may also lead to changes in psychosocial capital, which refers to the non-cognitive skills of an individual such as self-esteem, self-efficacy, motivation, and preferences.

**Purpose:** The reasons and objectives for participation, including job or career reasons, educational reasons, or personal interest. Note that this definition of purpose is from the perspective of the individual learner and not from the perspective of the program designers or providers.

**Quasi-experimental studies:** Quasi-experimental designs include regression discontinuity estimators, instrumental variable regression, and difference-in-difference approaches. The idea behind these techniques is to try to “mimic” the conditions of an experimental design by identifying cases where a policy or program change incentivizes individuals to change their behaviour and participate in a program they otherwise would not have participated in. In other words, researchers search for “natural experiments,” or situations in nature that closely replicate an experimental context in which individuals are randomly assigned into program and comparison groups.

**Randomized experiments:** The defining characteristic of a randomized experiment is the use of a random assignment design by which participants in the research project are assigned at random to a treatment group that is eligible to receive the intervention being tested or to a control group that is not eligible. This is the only method that is guaranteed to eliminate selection bias and thereby produce unbiased estimates of program impacts. The process of random assignment ensures that there are no systematic differences between the program group and the comparison group.

**Regression discontinuity:** By identifying an exogenous threshold in a population as being eligible or not eligible for a given treatment, and by comparing the outcomes of groups very closely on both sides of that threshold, researchers are able to study treatment effects even where randomization is not possible. The key drawback of discontinuity designs is that estimates are only valid around the cut-off point. This is a very narrow segment of the population, and results from studies using this approach should be interpreted with this in mind.

**Return on investment:** The net benefit or net cost of a learning activity relative to the investment, frequently expressed as a ratio or percentage (also known as the internal rate of return). ROI can be calculated from multiple perspectives, such as individuals, firms, or government/society.

**Self-confidence/self-esteem:** Increased self-confidence/self-esteem is widely cited as an intermediate outcome associated with participation in foundational learning. Self-confidence/self-esteem relates to one's sense of self-worth and can be measured using the Rosenberg Self-Esteem Scale.

**Self-efficacy:** Increased self-efficacy is widely cited as an intermediate outcome associated with participation in foundational learning. Self-efficacy is related to one's belief in one's own abilities and can be measured in terms of whether individuals feel they have control over their lives, whether they find their problems manageable, and whether they feel they are getting what they want out of life.

**Sensitivity analysis:** Sensitivity analysis is a tool for testing the robustness of findings to inherent uncertainties and the need for assumptions. The idea is to replace unknown or uncertain parameters with alternative values drawn from a plausible distribution. Researchers might, for example, conduct sensitivity analysis over alternative specifications of the discount rate.

**Shadow prices:** This is the maximum price an individual, firm or society would be willing to pay for one more unit of a given limited resource.

**Skills tests/scores:** Skills tests and pre- and post-learning activity test scores are used as a measure of increases of human capital which participants may experience as a result of participation in adult learning. Skills tests are different from IQ tests for example, insofar as they test proficiencies rather than raw intelligence.

**Social capital:** We define social capital using a social network approach, which emphasizes network characteristics that are measurable and possibly influenced by programs. This definition distinguishes social capital from activities to which it may be related, such as volunteering and civic engagement.

**Social cohesion:** A broad concept that encompasses a variety of possible social outcome associated with participation in education, such as levels of trust among individuals and a region, whether there is support for political authority and racial tolerance.

**Social networks:** Measuring changes in an individual's social network – in terms of quality and size – is an indicator of whether an individual has experienced increased social capital as a result of participation in adult learning. For example, social networks can be measured in terms of growth of one's social circle, which can be divided into inner, middle and outer circles which denote social relationships at varying levels of closeness.

**Social outcomes:** Social outcomes are outcomes that accrue to those beyond the individual learner, their family or their employer. Examples of social financial indicators include reliance on social assistance, tax contributions, and health care costs.

**Systematic review:** In systematic reviews, researchers attempt to gather relevant evaluative studies, critically appraise them, and come to judgments about what works using explicit, transparent, state-of-the-art methods. In contrast to traditional syntheses, a systematic review will include detail about each stage of the decision process, including the question that guided the review, the criteria for studies to be included, and the methods used to search for and screen evaluation reports. It will also detail how analyses were done and how conclusions were reached.

**Tax and transfer system:** Increased support for and reduced pressure on the tax and transfer system are widely cited social outcomes associated with participation in formal education. Changes in support and pressure on the tax and transfer system can be measured in terms of average levels of tax payments made by individuals into the system, and average levels of tax and social assistance transfers paid to individuals relative to varying levels of educational attainment.

**Treatment group:** This is the group of people who are eligible to receive treatment, though, not all members of a treatment end up receiving treatment.

**Turnover:** Increased/decreased employee turnover is cited as a potential firm outcome associated with workplace-related training or firm-sponsored training more generally. Turnover is often measured in terms of the number of employees who leave the firm in a given period as a ratio of the total number of employees employed by the firm in the same period.

**Value-added/sales per worker:** A measure of firm productivity, which can be calculated as gross operating revenue minus expenses on intermediary inputs, training expenses and additional labour costs.

**Voter behaviour:** A social outcome that may include indicators such as voting registration and voter turnout. A question considered by the education literature is whether higher levels of education are associated with improved voting behaviour.

**Wages:** Wages are the price of labour paid to workers by the firms for which they work. Increased wages are a potential individual financial outcome associated with participation in adult learning.

**Workplace practices:** Changes in workplace practices are cited as an intermediate outcome associated with adult participation in foundational learning. Workplace practices include practices such as task efficiency or participation in meetings, or any other practice in which individuals engage on the job or when interacting with colleagues. Such changes can be measured using pre and post programs surveys.

**Workplace-related learning:** Learning that is related to the firm in which the learner is employed and that is supported at least to some extent by their employer, but that is not foundational or higher education. Individuals may engage in this type of learning for the purpose of learning a new job, improving their job performance, for professional development, as an employee benefit or because it is required by legislation. It is worth noting that this category includes both training that is only relevant to the firm (often thought of as firm-specific training), and also training that may be relevant to other firms (often referred to as general skills training).

**Wellbeing:** A broad concept that encompasses a range of non-financial outcomes such as life satisfaction and perceived quality of life, as well as mental health outcomes such as depression, anxiety, or stress.