DOCUMENT RESUME

ED 452 390 CE 081 658

AUTHOR	Livingstone, D. W.
TITLE	Adults' Informal Learning: Definitions, Findings, Gaps, and Future Research. NALL Working Paper #21.
INSTITUTION	Ontario Inst. for Studies in Education, Toronto.
SPONS AGENCY	Social Sciences and Humanities Research Council of Canada, Ottawa (Ontario).
PUB DATE	2001-01-31
NOTE	41p.; Version of the revised position paper for the Advisory Panel of Experts on Adult Learning (APEAL), Applied Research Branch, Human Resources Development Canada (HRDC).
AVAILABLE FROM	NALL: New Approaches to Lifelong Learning, Ontario Institute for Studies in Education, University of Toronto, 252 Bloor Street West, Toronto, Ontario, Canada M5S 1V6. Tel: 416-923-6641; Fax: 416-926-4725 ($3). For full text: http://www.oise.utoronto.ca/depts/sese/csew/nall/res/21adultsifnormallearning.htm.
PUB TYPE	Opinion Papers (120) -- Tests/Questionnaires (160)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Adult Education; *Adult Learning; Education Work Relationship; Educational Research; Experiential Learning; Foreign Countries; *Independent Study; *Informal Education; Intentional Learning; Lifelong Learning; National Surveys; *Outcomes of Education; *Research Methodology; *Research Needs
IDENTIFIERS	*Canada

ABSTRACT

This paper on adult informal learning is divided into four sections. Section 1 examines different conceptions of informal learning and the issues and limitations associated with alternative definitions of informal learning. Section 2 is a review of empirical research on the estimated extent, role, and outcomes of informal learning and posited linkages between informal and formal methods of learning. It reports that, according to the New Approaches to Lifelong Learning (NALL) 2000 national survey, over 95 percent of Canadian adults are involved in some form of informal learning activities that they identify as significant. Section 3 critically assesses current research approaches to studying informal learning and identifies policy-relevant knowledge gaps concerning the general level and nature of informal learning, distribution of informal learning across the adult population, impact of informal learning on individual and firm performance, and relationship of informal learning to formal skills development. Section 4 recommends optimal approaches to future research on informal learning practices with a particular focus on survey research in Canada and finds it imperative to establish benchmarks of the general incidence, basic contents and modes, and any differential patterns of intentional informal learning and training, and to continue to track trends in relation to other dimensions of adult learning. (Appendixes include NALL questions and 69 references.) (YLB)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 452 390

NALL Working Paper # 21-2001

ADULTS' INFORMAL LEARNING: DEFINITIONS, FINDINGS, GAPS AND FUTURE RESEARCH

D.W. Livingstone
Head, Centre for the Study of Education and Work, OISE/UT

the research network for New Approaches to Lifelong Learning

NALL

Le Réseau de recherche sur les nouvelles approches de l'éducation permanente

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
D. Livingstone
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☒ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Table of Contents

Introduction
Conceptions of Informal Learning
Empirical Research on Informal Learning
Critical Assessment and Knowledge Gaps
Future Research
Concluding Remarks
Appendix 1 NALL 2000 Questions
References
Endnotes

ADULTS' INFORMAL LEARNING: DEFINITIONS, FINDINGS, GAPS AND FUTURE RESEARCH*

D.W. Livingstone
Head, Centre for the Study of Education and Work, OISE/UT

*A version of the revised position paper for the Advisory Panel of Experts on Adult Learning (APEAL), Applied Research Branch, Human Resources Development Canada (HRDC), January 31, 2001. The views expressed in this paper are those of the author and do not necessarily reflect the position of HRDC.

CE061659

BEST COPY AVAILABLE

Introduction

This paper will address the following topics:

(1) examination of different conceptions of informal learning and the issues and limitations associated with alternative definitions of informal learning;

(2) review of relevant empirical research on the estimated extent, role and outcomes of informal learning, and posited linkages between informal and formal methods of learning;

(3) critical assessment of current research approaches to studying informal learning and identification of policy-relevant knowledge gaps concerning the general level and nature of informal learning, the distribution of informal learning across the adult population, the impact of informal learning on individual and firm performance, and the relationship of informal learning to formal skills development; and

(4) recommendation of optimal approaches to future research on informal learning practices with a particular focus on survey research in Canada.

(1) Conceptions of Informal Learning

The continuing acquisition of knowledge and skills is probably the most distinctive feature of the human species. As Figure 1 suggests, several basic types of learning may be identified in terms of the organization of the body of knowledge to be learned and the primacy of teachers.

While no form of human learning is devoid of the influence of other people, the distinctions drawn from the adult education literature that are proposed in this paper focus on the degree of directive control of learning; they range from dominant teacher control, through other forms that involve teachers/trainers/mentors, to dominant learner control. **Education**, which derives from the Latin verb (educere) meaning "to lead forth", encompasses three forms of learning characterized by the presence of a teacher, someone presumed to have greater knowledge, and a learner or learners presumed to have lesser knowledge and expected to be instructed or led by said teacher. When a teacher has the authority to determine that people designated as requiring knowledge effectively learn a curriculum taken from a pre-established body of knowledge, the form of learning is **formal education**, whether in the form of age-graded and bureaucratic modern school systems or elders initiating youths into traditional bodies of knowledge. When learners opt to acquire further knowledge or skill by studying voluntarily with a teacher who assists their self-determined interests by using an organized curriculum, as is the case in many adult education courses and workshops, the form of learning is **non-formal education** or **further education.** When teachers or mentors take responsibility for instructing others without sustained reference to an intentionally-organized body of knowledge in more incidental and spontaneous learning situations, such as guiding them in acquiring job skills or in community development activities, the form of learning is **informal education** or **informal training**. Finally, all other forms of intentional or tacit learning in which we engage either individually or collectively without direct reliance on a teacher or an externally-organized curriculum can be termed **self-directed** or **collective informal learning**.1

Figure 1 Basic Types of Learning

		Primary Agency	
		Learner(s)	Teacher(s)
Knowledge Structure	Pre-Established	Non-formal education Further education	Formal Schooling Elders' teachings
	Situational	Self-directed learning Collective learning	Informal Education Informal Training

There has been considerable conceptual confusion among adult learning researchers over types of learning. Both earlier typologies and much of the research to date on adult learning have tended to conflate some of these different types of learning (see Mocker and Spear, 1982; Padberg, 1991). Drawing boundaries between these four types of learning can be very difficult. As Figure 1 suggests, there are at least two different knowledge traditions: a rational or scientific cognitive knowledge which emphasizes recordable theories and articulated descriptions as cumulative bases for increased understanding, and a practical knowledge tradition which stresses direct experience in various situated spheres (Molander 1992). Practical knowledge frequently remains tacit, unable to be described symbolically. But in reality, our theories and practice constantly interact. Distinguishing teachers from learners is also often complicated in educational settings in which extensive interaction or independent inquiry are encouraged. More specifically, the non-formal or further education of adults typically occurs in courses or workshops with a pre-established curriculum and an externally-designated instructor; adults may also decide to resume formal schooling in the same settings as compulsory age initial cycle students. But since adult participation is more discretionary, the curriculum of further education processes is likely to become quite learner-centred and situational in response to specific adults' interests, and therefore similar to an informal education process. The informal education of adults which occurs through contact with institutionally-authorized guides in situations without a pre-established curriculum may be very comparable to and difficult to distinguish from a self-directed informal learning process if the guide is freely-chosen in an ongoing informal relationship. Formal education which occurs outside state-approved educational institutions may be ignored or regarded as informal education by state officials, whereas such pre-established bodies of knowledge as the traditional wisdom shared by elders can remain central to the reproduction of aboriginal culture, for example. Conversely, self-directed informal learners may decide to follow a pre-established curriculum on their own, and therefore engage in a learning process much like formal education. But self-directed informal learning per se is most simply understood as learning that is undertaken on the learner or learners' own terms without either prescribed curricular requirements or a designated instructor.

If we apply these general distinctions to employment-related learning, we can readily identify many formal education programs devoted to vocational training, as well as many non-formal education courses for job retraining and upgrading. Employment-related informal training may be provided to new job entrants by lead hands and other accomplished workmates designated as mentors by employers and/or employee organizations. Self-directed informal learning includes intentional job-specific and general employment-related learning done on your own, collective learning with colleagues of other employment-related knowledge and skills, and tacit learning by doing. Again drawing boundaries between types of learning is difficult. Apprenticeships, for example, often combine pre-established bodies of knowledge and practical experiential learning in complex interactions between teachers and learners as well as individual learning initiatives, and therefore contain elements of all four basic types of learning.

Most adults probably engage in multiple types of learning on an ongoing basis, with varying emphases and tendencies. Only the state-sanctioned forms of schooling and further education are very fully identified or widely documented. Other adult learning activities have tended to be ignored or devalued by dominant authorities and researchers either because they are more difficult to measure and certify or

because they are grounded in experiential knowledge which is more relevant to subordinate social groups (see Gereluk, Briton and Spencer, 1999; Burns, 1999). In any case, *it is clear that both adults' informal education/training and their self-directed informal learning have been relatively little explored to date and warrant much fuller attention from those interested in comprehending the nature and extent of adult learning.*

Some of the most influential contemporary theories of adult learning focus on the learning capacities of adults outside standard teacher-directed classroom settings, such as Malcolm Knowles' (1970) work on individual self-directed learning and Paolo Freire's (1970, 1994) reflections on his initiatives in collective learning through dialogue. Both theorists stress the active practical engagement of adult learners in the pursuit of knowledge or cultural change. Theories of cognitive development which take more intentional account of subordinate groups' actual conditions and their socio-historical context, and which recognize the importance of diverse social relations beyond the realm of established educational institutions to the shaping of adult social consciousness (Vygotsky 1978; Moll 1990) have encouraged some researchers to begin to more fully conceptualize and conduct grounded studies of the dimensions of adult self-directed informal learning and informal education practices situated in the everyday lives of ordinary people (Lave and Wenger, 1991; Engestrom and Middleton, 1996).

Given this context, I can suggest a generic nominal definition of informal learning. ***Informal learning*** *is any activity involving the pursuit of understanding, knowledge or skill which occurs without the presence of externally imposed curricular criteria.* Informal learning may occur in any context outside the pre-established curricula of educative institutions. The basic terms of informal learning (e.g. objectives, content, means and processes of acquisition, duration, evaluation of outcomes, applications) are determined by the individuals and groups that choose to engage in it. Self-directed or collective informal learning is undertaken on our own. Informal education or training is distinguished from such self-directed informal learning only by the presence of some form of institutionally-recognized instructor. Unless otherwise specified, the term "informal learning" will refer to both self-directed/collective informal learning and informal education/training in the remainder of this paper.

Conceptions of both self-directed informal learning and informal education to date have been quite insensitive to distinctions between intentional and more diffuse forms of learning. **Intentional informal learning and intentional informal training** can be distinguished from everyday perceptions, general socialization and more tacit informal learning or training by peoples' own conscious identification of the activity as significant learning or training . **The important criteria that distinguish intentional informal learning and training are the retrospective recognition of both (1) a new significant form of knowledge, understanding or skill acquired outside a prescribed curricular setting and (2) the process of acquisition, either on your own initiative in the case of self-directed informal learning, or with aid of a mentor in the case of informal training, respectively**. This is the guideline for distinguishing between intentional informal learning and training and all of the other tacit forms of learning and other everyday activities that we go through.

For example, there are the basic forms of socialization that we experience as young people, when older family members engage with us in many forms of anticipatory socialization that neither we nor they recognize as informal training because they are so incorporated in other activities, such as the various ad hoc day-to-day interrelationships between parents and children through which youths are inducted into the cultural life of their society. In basic socialization, tacit informal learning and acting constitute a seamless web in which it is impossible for most of us to distinguish many learning activities . Did I actually learn this in some discrete way or was it something that emerged in a much more diffuse experiential way that became part of my consciousness? Can I retrospectively identify deliberate and sustained efforts to gain a new form of understanding, knowledge or skill, and attribute these efforts a recognizable amount of time? It is important to stress here that self-reported estimates of informal

learning and training very likely substantially underestimate the total amount of informal learning that people do because of the embedded and taken-for-granted character of this tacit learning. As Michael Eraut (1999, pp. 36, 40) concludes after an extensive review of research on workplace learning:

> "Thick" tacit versions of personal knowledge co-exist with "thin" intentional versions: the thick version is used in practice, the thin version for describing and justifying that practice.... [T]he limitations to making tacit knowledge intentional are formidable, and much of the discussion about it in the literature is ill-informed if not naive.

More inclusive approaches to informal learning that attempt to identify tacit knowledge through such means as direct observation in situ or in-depth interviewing may serve to sensitize both learners and researchers to previously taken-for-granted learning processes. Case studies using these methods can identify numerous dimensions of previously obscured but vitally important learning in social contexts that underpins more evident learning practices, ranging from the hidden curriculum in elementary school classrooms to the implicit organizational learning that occurs among marginalized workers (e.g. Anyon, 1980; Church, Fontan, Ng and Shragge, 2000). But all such approaches to date have only scratched the surface of tacit learning and remain prone to researcher presumptions whenever they go beyond respondents' self-reports.

The actual time that we allocate informally to gain intentional knowledge, skill or understanding may vary in terms of our circumstances, the amount of concentration we can place on it, our actual learning capacities, and a number of other factors. To study self-directed informal learning using the sample survey techniques normally required for representative readings of human behaviour, we have to strike a resolve to focus on those things that people can identify for themselves as intentional learning projects or deliberate learning activities beyond prescribed curricula and without externally-authorized instructors. Documenting informal training requires a similar reliance on respondents' self-reports. More sensitive ethnographic case study research should continue to be encouraged. But "thin" versions of adults' intentional informal learning and training generated through survey research can at least provide more complete profiles of their actual array of learning practices.

(2) Empirical Research on Informal Learning

One of the first empirical studies to attempt to estimate the extent of informal learning activities among adults was the 1961-62 U.S. national survey (N=2845) of voluntary learning(Johnstone and Rivera, 1965). After a detailed set of questions about further education course participation, the survey then asked whether respondents had ever tried to teach themselves some subject by means of independent study strictly on their own, followed by asking them if they were currently engaged in any studies of this sort. Nearly 40 percent of U.S. adults indicated that they had engaged in such learning activities at some time and nearly 10 percent said they were currently involved; respondents were also almost twice as likely to indicate participation in independent studies as in further education courses, and most of those engaged in further education were also involved in independent studies (pp. 33,38, 129). As Johnstone and Rivera (1965, p. 37) concluded:

> To the authors' knowledge, this type of measure has never before been extracted from a national sample of the population–which in itself suggests that self-instruction is probably the most overlooked avenue of activity in the whole field of adult education. Even in the present study, these activities were from the beginning regarded as a residual category of adult studies, and for this reason no additional information was collected concerning the learning materials and methods employed....About the only comment that can be made at this point is that the incidence of self-education throughout the adult population is much greater than we had anticipated.

The most substantial subsequent body of empirical research dealing with adult learning activities beyond organized schooling and further education courses is the work on adults' self-directed learning projects which was inspired by Knowles and pioneered by my colleague, Allen Tough (1971, 1979). Tough's early case studies, since corroborated by many others, found that well over two-thirds of most adults' intentional learning efforts occurred completely outside institutionalized adult education programs or courses, hence the image of the adult learning iceberg (Brookfield 1981; Brockett and Hiemstra 1991). The empirical studies initiated by Tough in the late 1960s document that virtually all adults are regularly involved in deliberate, self-directed learning projects beyond school and training programs. As Tough (1978, 252) summarized the central finding from a wide array of studies in the 1970s:

> The typical learner conducts five quite distinct learning projects in one year. He or she learns five distinct areas of knowledge and skill. The person spends an average of 100 hours per learning effort-- a total of 500 hours per year.

Most of the sample surveys conducted in North America and Europe since the early 1970s on the general frequency of informal learning are summarized in Table 1. The first large-scale national survey focussed on informal learning was conducted by Patrick Penland (1977) in the U.S. in late 1976, inspired by Johnstone and Rivera's incidental findings and guided by Tough's case study interview format. The interview began with the following framing question on informal learning:

> I'm interested in listing the things you have tried to learn during the past year on your own initiative. When I say "learn", I don't mean learning the sorts of things that people learn in schools and colleges. I mean any sort of deliberate effort at all to learn something, or how to do something. Perhaps you tried to get some information or knowledge–or to gain new skills or improve your old ones–or to increase your sensitivity or understanding or appreciation. Just as long as you spent some number of hours at these efforts to learn something. Can you think of any efforts like this that you have made during the past 12 months? Did you actually complete some learning project on your own–that is, not in a formal teaching setting for credit? Have you, in other words, gone as far as you wanted to and felt that you had finished the particular projects? What were the projects or things that you learned?

Just as in Tough's research, the initial questions were followed by some probes to provide further opportunities for respondents to recall their relevant intentional informal learning activities during the past year. Penland found that over three-quarters of U.S. adults were involved in self-planned learning activities and that, as in the prior case studies, they were spending an average of about 500 hours per year in such informal learning.

Very few further large-scale general surveys of informal learning were conducted until the mid-1990s. But some national surveys have now begun to ask about aspects of informal learning in the context of inquiries focussed on adult education course participation. A 1995 Finnish survey (Blomqvist, Niemi and Ruuskanen, 1998, pp. 34, 91) using much more restrictive questions than Penland and excluding registered students found that 22 percent of Finnish adults between 18 and 64 had been involved in self-directed learning for at least 20 hours in the past year. The basic question was:

> New knowledge and skills can be obtained at work or on leisure time by other means than

courses and training too. Have you in the past 12 months studied some new subject independently or together with friends or acquaintances or co-workers for a total of at least 20 hours?

A U.K. survey covering the 1994-97 period and focussed primarily on taught learning has found that 57 percent of all adults indicated involvement in some form of non-taught learning during this period (Beinart and Smith, 1998, pp. 200-217, 309, 315). This included 51 percent of those who were employed indicating that they had spent time keeping up to date with developments in the type of work they do without taking part in a taught course (for example, by reading books, manuals or journals or attending seminars); it also included 29 percent of all non-students deliberately trying to improve their knowledge about anything or teaching themselves a skill without taking part in a taught course, and 1 percent of all adults studying for any qualifications without taking part in a taught course. A follow-up survey 18 months later found that the participation rate in non-taught learning over the entire 4.5 year period increased to 65 percent (LaValle and Finch, 1999, p. 11). No estimates of the duration of informal learning were attempted in these surveys; in the U.K. case this was because pilot surveys found that respondents were unable to give start and end dates for these more informal non-taught types of learning (Beinhart and Smith, 1999, p. 269).

TABLE 1 Estimated Incidence of Informal Learning Activities, Selected Countries, 1975-1998

Survey*	total hours/yr	% informal learners
Hiemstra (1975) [N=256; Nebraskans over 55]	325	84
Penland (1976) [N=1501; U.S. national adult population]	514	76
Tough (1971-78) [estimate based on 1970s case studies]	500	98
Leean and Sisco (1981) [N=93; rural Vermont school dropouts]	425	98
Blomqvist/Niemi/Ruuskanen (1995) [N=4107; Finnish adult population]	20+	22
Livingstone/Hart/Davie (1996) [N=1000; Ontario adult population]	600	86
Beinart and Smith (1994-97) [N=5653; United Kingdom adult population]	N/A	57
Statistics Canada (1998) [N=10,749; Canadian national adult population]	230	30
NALL (1998) [N=1562; Canadian national adult population]	750	95

population]		
Livingstone/Hart/Davie (1998) [N=1007; Ontario adult population]	750	88
Livingstone/Hart/Davie (2000) [N=1002; Ontario adult population]	650	86

*years cited refer to period of learning surveyed rather than time of publication

The 1998 General Social Survey in Canada (Statistics Canada, 1999) also contained a few questions on informal learning. The questions were as follows:

> (1) Many people improve their knowledge of a subject or upgrade their skills on their own instead of taking a course. They read books, watch television programs, use a computer or talk to someone with the necessary expertise. Have you undertaken any of these activities during the past month?
> (2) What were you learning?
> (3) Which of the following media did you use?
> (4) How many hours did you devote to these learning activities last month?

About 30 percent of respondents gave an initial positive response. After responding to the other two general questions, the remaining respondents then estimated that they were spending an average of about 19 hours per month on these learning activities, which translates into nearly 5 hours per week or about 230 hours per year. Averaged over the entire sample, this would reduce to about 1.5 hours per week.

All of these recent surveys of informal learning (i.e. the Finnish, U.K. and 1998 GSS surveys) very likely produce serious underestimates of the actual current extent of intentional informal learning. The questions on informal learning are typically posed immediately after a series of questions about initial schooling, adult credit courses and non-credit courses which serve to predispose respondents to think of learning in terms of organized education, provide only cryptic definitions of informal learning, and offer no opportunity to consider informal learning activities in relation to any other specific learning context besides educational institutions. These survey questions also tend to dichotomize courses and learning on your own, suggesting –explicitly in the case of the GSS survey's use of the phrase "instead of taking a course"-- that you normally only do one or the other. Virtually all the earlier surveys, informed by Tough's case study research, demonstrated this is clearly false, that most course participants also engage in substantial informal learning activities. It is likely that these recent surveys have merely rediscovered the iceberg of intentional informal learning rather than plumbing its depth.

Surveys conducted in Ontario in 1996,1998 and 2000 on public attitudes to educational policies have included a few questions which used a similar format to the original Tough studies and the Penland survey. These surveys have found that the vast majority of adults indicate involvement in some form of informal learning during the past year. Estimated time commitments have fluctuated between averages of about 12 and 15 hours per week during this four year period (Livingstone, Hart and Davie, 1999, p. 69; forthcoming). The question wordings were as follows:

> Please think of any learning you do on your own or with others that in not part of organized schooling or continuing education courses. This includes any activities in which your main purpose is to gain specific knowledge or skills. Not counting course work, about how many hours in a typical week do you spend trying to learn anything related to your paid work or household work or work you do as a volunteer. Just give your best guess.

> Not counting course work, about how many hours in a typical week do you spend trying to learn anything else of general interest to you. Just give your best guess.

Finally, in 1998, the research network on New Approaches to Lifelong Learning (NALL) conducted the first national survey in Canada focussed on adults' informal learning practices (NALL, 1998; Livingstone, 1999). NALL is centred at OISE/UT. It has been funded by the Social Sciences and Humanities Research Council of Canada (SSHRC) to identify the extent of adult learning, the existence of social barriers to learning and more effective means of linking learning with work. The NALL survey of adults' current learning was planned to attend to the full array of adults' learning activities, including not only schooling and continuing education courses but also informal learning that occurs outside organized education. We reviewed and borrowed from virtually all prior studies of informal learning that have previously been conducted (see Adams et al, 1999). We did extensive pilot testing with dozens of individuals and groups. The final interview schedule addresses schooling, non-formal education courses and workshops, as well as informal education and various aspects of self-directed informal learning, but the primary focus is on the diverse aspects of intentional informal learning; a variety of social background factors are also addressed. (Those interested in reviewing the full interview schedule can find it at the NALL website: www.nall.ca). A representative telephone survey of 1562 Canadian adults was conducted for NALL between June 6 and November 8, 1998 by the Institute for Social Research at York University. This survey asked respondents to talk about informal learning from their own standpoints. The NALL survey sample includes adults 18 and over, who speak English or French, reside in a private home (not old age/group homes/penal or educational institutions) with a telephone. All provinces and households and individuals within households were given an equal chance of selection using random digit dialling. The average telephone interview time was 32 minutes, which is about half of the administration time of the earlier U.S. national survey (Penland, 1977, p. 23).An in-depth follow-up interview was also conducted with a sub-sample of the original respondents in the summer of 2000 (see Appendix 1).

The NALL survey respondents were first given a definition of informal learning as including anything people do to gain knowledge, skill or understanding from learning about their health or hobbies, unpaid or paid work, or anything else that interests them outside of organized courses. They were then asked to indicate their participation in four aspects of informal learning: employment-related; community volunteer work-related; household work-related; and other general interest-related. In each aspect, respondents were asked about informal learning activities on several specific themes. The most relevant NALL findings are summarized briefly in the remainder of this section.

Employment-related Informal Learning

Those Canadian adults in the active labour force (including over 60 percent employed and about 8 percent designated as unemployed) were first asked to identify any informal learning they had done during the past year related to their employment. The basic question was as follows:

> First, let's talk about any informal learning activities outside of courses that have some connection with your current or possible future paid employment. This could have been any learning you did on your own or in groups with co-workers, that is any informal learning you consider to be related to your employment. I'm going to read you a list of some types of informal learning related to employment that people sometimes do outside of formal or organized courses.

These employment-related learning activities and the proportion of employed respondents who indicated

participating in them were as follows:

Figure 2 Employment-related Learning Activity %

keeping up with new general knowledge in job/career	71
new job tasks	63
problem solving/communication skills	63
employment-related computer learning	61
occupational health and safety	55
other new technologies or equipment	52
employee rights and benefits	43
supervisory or management skills	38
job-related literacy and numeracy skills	29
job-related second language skills	13
other employment-related informal learning	17

After indicating whether or not they participated in each of these topical areas of learning, respondents were then asked to estimate they time they spent on employment-related informal learning:

> Thinking about all the informal learning you have been doing in the last year that is related to your employment, about how many hours did this amount to in a typical week?

A similar question was asked in each of the other three spheres of informal learning. On average, currently employed respondents estimated that they spent about 6 hours per week in all of these informal learning activities related to their current or future employment during the past year. Around 10 percent estimated that they spent less than an hour per week in employment-related informal learning activities. Very few employed people stated that they did no job-related informal learning but some found it too difficult to provide a specific estimate; all of these less than an hour responses were treated as zeros, thereby contributing to a conservative estimate of average hours. The remainder were about equally divided into those who spent 1 to 2 hours, 3 to 5 hours and 6 or more hours per week in job-related informal learning. Less than 10 percent estimated that they spent more than 20 hours per week, which suggests that even when respondents are given fairly extensive opportunities to identify job-related informal learning they are generally able to distinguish intentional informal learning from other activities and to recognize both the time constraints of multiple other activities in the 168 hour week , and are very unlikely to regard informal learning as a seamless web occupying most of their paid work time.

Household Work-related Informal Learning

Those involved in household work over the past year (over 80%) have averaged about 5 hours per week in informal learning related to their household work. The household work-related learning activities and the proportions who indicated participating in them were as follows:

Figure 3 Household Work-related Learning Activities %

home renovations and gardening	66
home cooking	58
home maintenance	56
shopping	51
home budgeting	45
child or elder care	44
cleaning	41
other household tasks	14

Again there are small numbers at the extremes, with around 10 percent indicating they devote less than an hour per week to housework-related informal learning and about 5 percent saying they spend more than 20 hours per week in such learning. Moreover, given the greater proportion of Canadians involved in housework than in paid employment and the only slightly higher average hours devoted to informal learning related to employment, it appears that we are now devoting about as much aggregate time to informal learning related to housework as to paid employment.

Community Volunteer Work-related Informal Learning

Those who have been involved in organized community work over past year (over 40%) devote about 4 hours a week on average to community-related informal learning. The community-related informal learning activities and the proportions of community participants involved in them were as follows:

Figure 4 Community Work-related Learning Activities %

interpersonal skills	62
communication skills	58
social issues	51
organizational/managerial skills	43
fund raising	38
other technical skills	28
other skills	24

The majority of community work participants indicate that they devote no more than 2 hours per week to related informal learning activities, while less than 10 percent devote more than 10 hours per week. The relatively low levels of participation in community volunteer work and related informal learning are consistent with the fact that this is the most discretionary type of work in advanced industrial societies and many people simply choose to opt out.

Other General Interest Informal Learning

Most people engage in some other types of informal learning related to their general interests and not directly connected with any of the three forms of work. Those who do so (around 90%) spend on average about 6 hours a week on these learning activities. The basic sorts of general interest learning and the proportions engaging in these respective activities are as follows:

Figure 5 General Interest Learning Activities %

health and well being	74
finances	58
leisure/hobby skills	58
environmental issues	57
social skills/personal development	55
public and political issues	51
computers/computing skills	50
sports and recreation	49
cultural tradition/customs	42
intimate relationships	41
pet care	41
religion/spirituality	41
practical skills	37
science and technology	35
other general interests	12

Around a third of respondents spend an hour or less per week in informal learning related to all of these general interests. The majority spend no more than three hours while less than 10 percent devote more than 10 hours a week to such general interest learning. While there is evidently very wide participation in informal learning related to many diverse interests, the incidence of work-related informal learning appears to be considerably greater if we include learning related to both paid and unpaid work.

Total Involvement in Informal Learning

According to the NALL survey, nearly all Canadian adults (over 95%) are involved in some form of informal learning activities that they can identify as significant. This survey provides estimates of the amount of time that all Canadians, including those who say they do no informal learning at all, are spending in all four areas (employment, community, household, and general interest). The estimated average number of hours devoted to informal learning activities by all Canadian adults during 1998 was around 15 hours per week. The NALL survey estimate for the amount of time that Canadian adults are spending in organized courses (including time in class and doing homework and class assignments) is about 3 hours per week averaged over the entire adult population, or about 12 hours per week among those who actually participated in courses. The most recent AETS survey, which focussed in more detail on different types of non-formal course participation but only asked about hours participants took the course rather than explicitly asking them to consider homework time, generates an average of about 1 hour a week averaged over the entire adult population or 4 hours a week per participant. Even if the focus is restricted to those who participated in courses, they are found to devote more time to intentional informal learning activities than to course-based learning. If we consider the entire adult population, Canadian adults are clearly spending vastly more time in informal learning activities than in non-formal education courses, a ratio of at least five to one. The use of the metaphor of the submerged part of an iceberg to describe the informal portion of adult learning may not be exact, but it is fairly close. While hours of learning per course participant is relevant for some general research purposes, the remainder of this paper will focus on the more inclusive comparative measures of hours of informal and course-based learning per capita.

It is important to recognize here that the NALL time estimates have been generated through a survey which was primarily devoted to identifying the multiple possible sites and topics of informal learning. Virtually all prior empirical studies of informal learning have found considerable initial reluctance among respondents to identify their learning outside educational institutions as legitimate learning (see Tough, 1979). It is only when people are given an opportunity to reflect on actual learning practices in relation to their daily lives that much informal learning is recognized as such by the learners. In addition, informal learning activities often occur in combination with other social activities. While this makes time estimates more difficult and less exact, it is not a sufficient basis to either devalue or ignore informal learning processes. In any event, when Canadian adults are given even brief opportunity to reflect on their informal learning practices along the topical lines summarized above, the average estimated time devoted to informal learning is now around 15 hours per week, which is both much more time than they devote to organized educational activities and a significant portion of their waking time. Of course, future surveys will need to both confirm and track trends in the NALL benchmark estimate.

As Table 2 illustrates, the average figure masks considerable variation in the total amount of informal learning that Canadian adults say they are now doing. Less than 5 percent insist that they are either doing no informal learning, doing less than an hour per week or are unable to offer a specific estimate. About equal proportions all over 20 percent indicate that they are engaged respectively in 1 to 5 hours, 6 to 10 hours, 11 to 20 hours and over 20 hours per week of total informal learning activity. Put another way, about three-quarters of Canadian adults are now spending 6 hours or more each week in some kind of informal learning activities, most of this related to paid or unpaid work.

Table 2 Distribution of Total Weekly Hours of Informal Learning, Canadian Adults, 1998

Hours/week	%
0	4
1-5	21
6-10	25
11-20	25
21+	25
Total average = 15 hrs/wk (N=1562)	

Three other major findings regarding differential effects in the research to date on adults' informal learning should be mentioned here: the non-correspondence between participation in organized education and informal learning; the discrepant effects of institutional recognition of prior learning on different social groups; and the lack of a strong aging effect on incidence of informal learning.

Table 2 Canadian Adults' Participation in Further Education and Informal Learning by School Attainment, 1998

School Completion	Taken course or workshop %	Plan to take course %	Informal learning %	Informal learning time (hrs/week)
no diploma	18	28	89	16
high school diploma	52	46	98	15
community college	58	62	98	15
university degree	67	70	98	14
Total (N=1562)	44	50	95	15

As Table 2 shows, those with higher levels of formal schooling are much more likely to have participated in further education courses or workshops and also to plan to participate in courses in the future. University graduates are over three times as likely to have participated in the past year as those who have not finished high school. However, no such relationship is evident between level of schooling completed and the incidence of informal learning. Those without high school diplomas are only slightly less likely to be engaged in informal learning activities and those with all levels of schooling report virtually the same average hours of informal learning. Similar rates of participation in informal learning have been found consistently between nearly all socio-demographic groups (e.g. sex, age, class and income, ethnicity, region, nation), with greater variations within particular subgroups than between them. There appear to be no discernible demographic pre-requisites to general involvement in informal learning nor are there major institutional barriers since virtually everyone can participate on their own terms if they are interested. Most people apparently are interested.

Several surveys have also found that there is very strong support across all socio-demographic groups for the principle of recognizing prior informal learning for purposes of granting course credit for placement in formal education programs, certifying technical skills for professional/trade licencing, or job recruitment (Thomas and Collins, 1999). The NALL survey found strong majority interest in increased participation in organized educational programs with the aid of prior learning assessment and recognition (PLAR). There is little evidence for the notion that lower level employees are content with relatively fewer opportunities for formal employment-related education because of their current reliance on informal learning. As Table 3 indicates, the NALL survey finds that industrial workers and the unemployed do have lower expectations than managers and professional employees of participating in adult education courses in the near future. But this difference would largely disappear if the former were given recognition for their prior related informal learning. Widespread implementation of (PLAR) in post-secondary institutions could narrow the gap between participation in organized education and informal learning, and could lead to reduced inequalities in education because the less affluent would be relatively more likely to increase their participation in post-secondary institutions (Livingstone, 1999; forthcoming). But recent research on actual use of PLAR to date indicates that it has primarily benefited already successful college entrants to complete their programs faster rather than to encourage greater accessibility (Aarts et al, 1999).

Table 3 Planned Future Participation and Interest in Participation with Prior Learning Assessment and Recognition (PLAR) by Occupational Class, Canada, 1998

Occupational Class	(1) Plan course (%)	(2) Interest in PLAR (%)	(3) Difference (2)-(1)
Manager	73	71	-2
Professional	74	74	0
Service worker	59	73	14
Industrial worker	43	71	28
Unemployed	40	79	39
Totals (N=1562)	50	61	11

Source: NALL(1998).

As Table 4 shows, aging does not appear to represent a major obstacle to continuing informal learning. The 1998 NALL survey confirms the finding of many prior studies that aging is closely related to declining rates of participation in adult education courses, with participation falling from about two-thirds of the youngest adults to around 10 percent of those over 65 years of age. The NALL survey finds that the youngest adults also tend to spend significantly more time in both course-based learning and informal learning activities. This probably reflects the exceptional amounts of new knowledge and experiential learning involved in making the transition from adolescence to independent adult careers, familial relationships and community life styles. However, there are only marginal declines at most in the participation rates and average time devoted to informal learning activities between the mid-20s and the retirement years. Older people continue to be very active informal learners. What does decline markedly through the adult life course is any preference for relying primarily on courses to acquire new knowledge, with a growing inclination to rely instead on one's own accumulated experience when learning new things. In fact, there appears to be close to an inverse relationship between course participation and preference for learning on one's own through the adult life course.

Table 4 Adult Education Course Participation, Preferred Form of Learning and participation in Informal Learning by Age Group, Canadian Adults, 1998

Age group	Course participation (%)	Prefer learning on own (%)	Informal participation (%)	Course hrs/week (ave.)	Informal hrs/week (ave.)
18-24	67	22	99	8	23
25-34	63	37	97	4	16
35-44	63	40	96	3	15
45-54	47	50	96	3	15
55-64	32	63	88	1	12
65+	10	64	89	0.5	12
Total (N=1562)	44	44	44	95	15

A Further Note on Employment-related Informal Learning

One of the most extensive international studies of skill formation at paid work concludes that:

> Learning-by-doing, while the most prevalent kind of work learning, is also the most invisible and the least documented. Visibility increases where skill formation is the product

> of a mixture of on-the-job and off-the-job training or of off-the-job training alone. There has been a relative paucity of empirical work on skill formation which is work-led rather than training-led. (OECD 1993, 30)

Several U.S. and Canadian national surveys have found that over 70 percent of the job training received by employees is informal (U.S. Department of Labor 1996; Ekos Research Associates 1993). The most recent in-depth U.S. study of over 1,000 workers in seven companies across seven states (Center for Workforce Development 1998, p. 1) again finds this 70 percent figure and concludes that:

> Informal learning was widespread and served to fulfill most learning needs. In general, we noted that informal learning was highly relevant to employee needs and involved knowledge and skills that were attainable and immediately applicable....Workers constantly learn and develop while executing their day-to-day job responsibilities, acquiring a broad range of knowledge and skills.

One of the most inclusive prior national-level assessment is probably a 1989 Australian survey, which addressed both formal structured training programs and unstructured training activities (such as asking questions of coworkers, self-learning and watching others do the work). This survey found that participation in organized company training programs differed along the hierarchical lines previously discussed, with university graduates much more involved than those with less schooling. But participation in informal training was more equitable. Over two-thirds of those at all levels of formal educational attainment indicated that they had engaged in such informal job-related learning within the last year (OECD 1991, pp.142, 149). A subsequent Australian survey in 1997 found that 54 percent of wage and salary earners participated in schooling and formal training during the prior year while 72 percent participated in informal training (Australian Bureau of Statistics, 1997).

One of the most extensive prior comparative studies of the formal and informal training of employees is the U.S. Bureau of Labor Statistics survey for the May-October, 1995 period, which found an average of 44.5 hours per worker, including 13.4 hours of formal training and 31.1 hours of informal training (U.S. Department of Labor 1996).These findings would translate into slightly over an hour per week of informal training for each U.S. worker. This survey provides a very detailed list of employment-related areas of learning which are comparable to those in the NALL survey and should be considered in any future survey of employment-related informal learning. The BLS survey has the added merit of clearly distinguishing and delimiting its inquiry to informal training aided by mentors, rather than conflating such training with self-directed learning as most other studies of employment-related informal learning have done. However, the BLS survey offers no estimates for self-directed informal learning.

The few ethnographic studies that have looked more closely at the workplace as a site of learning have found extensive informal social learning among manual workers about their work practices, styles and local knowledge beyond individual skills (Kusterer 1978; Darrah 1992; Darrah 1995). Much of this informal learning is unrecognized and taken for granted by workers themselves most of the time, almost invariably beyond the comprehension of management, and very often collective rather than individual learning. Working class autobiographies offer graphic testimony that, since the inception of industrial capitalism, manual workers with little schooling have been keenly interested in informal employment-related learning when their time and energy allowed.

The aforementioned finding in the 1998 NALL survey that Canadians in the active labour force report spending an average of about six hours a week, or over 300 hours a year, in informal learning activities related to their employment provides a useful benchmark for further studies. While such estimates remain very approximate, it is almost certainly the case that a much greater proportion of currently employed Canadians are involved in job-related informal learning –including both self-directed learning and informal training by mentors--than in job-related training courses and that even course participants

may spend as much time in job-related informal learning as in course-based learning activities. The main points here are that the vast majority of people of all occupational and formal education levels are now engaged in substantial ongoing informal learning activities, and that much of this learning is related in some way to their paid work, if we construe this work in its broadest terms. The "knowledge economy" appears to be much wider and deeper than current popular accounts which focus on the continuing job and product-specific training of managers and professional employees in the "learning enterprise" typically suggest.

****

In summary, the most inclusive and directly comparable surveys on adult informal learning suggest that North Americans were spending around 10 hours per week in intentional informal learning activities in the 1970s, and that the incidence may have increased by the 1990s (see also Candy 1993). Clearly, the overwhelming majority of Canadian adults are now spending a substantial amount of time regularly in these pursuits and are able to recognize this intentional informal learning as a significant aspect of their daily lives. The proliferation of information technologies and exponential increases in the production of information have created greater opportunities for informal learning beyond their own direct experience for people in all walks of life in recent years. Whatever the actual extent and trends over time are found to be through further, more refined studies, virtually all empirical studies to date that have estimated the extent of adults' intentional informal learning have confirmed that it is a very substantial activity.

(3) Critical Assessment and Knowledge Gaps

In light of conceptual confusion, varied measures and the very limited amount of comparative data, researchers' knowledge of the extent, processes, content, outcomes and trends of adults' informal learning and training remains very crude. The extensive empirical work on self-directed learning in the 1970s has led to **very little cumulative development** of understanding of the phenomenon of informal learning to date. Researchers keep rediscovering portions of informal learning anew with little effort to date to replicate earlier discoveries. For example, while self-directed learning researchers developed protocols to probe the topical foci and duration of informal learning projects, the recent U.K and Finnish survey researchers were apparently unaware of this work and abandoned any attempt to either identify topical foci or estimate actual duration of adults' informal learning activities. The Statistics Canada (1999) questions in the General Social Survey of 1998 generate estimates of duration and topical foci but mainly for those who have learned informally "instead of taking a course", ignoring the well-established fact that most adults who take courses also engage in other informal learning. All of these surveys also present the notion of informal, independent or non-taught learning cryptically after extensive questioning on participation in organized education, ignoring the earlier finding that most people tend to deny that they do any significant learning outside educational settings until they are given an opportunity to reflect on their experiential learning at least briefly. Our replications of the 1976 U.S. survey in Canada in the late 1990s (i.e. the NALL and OISE/UT surveys) represent a beginning in this regard, but further survey research is needed to reach much confidence in these estimates of the extent, topical foci and trends in adults' informal learning.

None of the empirical research to date on informal learning has distinguished very clearly between **informal self-directed learning** and **informal education or training**, as defined in section 1 above. For example, it may be the case that a great deal of job training occurs in the form of informal education of newer entrants by more experienced workers, but the relative importance of informal learning without such teachers by workers individually and collectively learning on their own has not been well documented. A single item in the 1998 NALL survey indicates that the most important general sources of employment-related knowledge from the standpoints of those in the current Canadian labour force are workers' own independent learning efforts (44 percent), followed by informal education by their

co-workers (28 percent); non-formal education in the form of employers' training programs is regarded as most important by a small minority (15 percent). Whether particular informal learning activities are done with the aid of a teacher/mentor and therefore qualify as informal education and training, or whether they are done by individuals or groups on their own and constitute self-directed informal learning should be addressed more carefully in subsequent research.

The **boundary between intentional and tacit informal learning** has only begun to be explored and most studies of intentional informal learning continue to ignore or underestimate the depths and complexity of tacit learning, as Eraut (1999) suggests. However, the now well established tradition of conceptual and empirical research on implicit learning is beginning to provide clearer insights into the interplay of implicit and intentional learning and memory generally (see Reber, 1993; Stadler and Frensch, 1998). Further progress in probing the depth of intentional informal learning will probably require similar intensive interviewing and experimental research designs.

Another reason for highly variable results in surveys of informal learning and training has been a failure to contextuate such learning in the **activity structure** of respondents' daily lives. If people are merely asked to identify and estimate informal learning activities without reference to the other activities and time commitments that they are involved in, both the time constraints and the learning incentives associated with everyday life are more likely to be ignored. The mid-2000 followup with a subsample (N=328) from the 1998 NALL survey incorporated a series of related questions on general time use prior to items on informal learning time (Livingstone, Hart and Stowe, 2000). The average estimated total informal learning time was reduced by about 20 percent. We hypothesize that this reduction may be related to the introduction of general activity structure time constraints into the second interview schedule, as well as to other contextual changes between 1998 and 2000. Future surveys will need to include similar items on other activities in order to generate reliable estimates of informal learning.

A closely related problem which has hardly been hinted to date at in empirical research estimating the extent of informal learning and training is the matter of **simultaneity**. We learn while we act continuously. To distinguish learning components from other aspects of our everyday practices can be extraordinarily difficult. Time use research has attempted to deal with the general problem of simultaneous activities by asking respondents to record primary and secondary activities in a given time period. Further research on informal learning and training will probably have to resort to some similar strategy of identifying informal learning as either a primary or secondary activity within a more clearly identified time and space structure of activities.

Only with more reliable estimates of informal learning over time and in different jurisdictions will it be possible to evaluate the relationships between organized schooling and non-formal education on the one hand and informal learning and training on the other. The possibility of recent **substitution effects** in Canada, and Ontario in particular, is supported by survey evidence which suggests that the levels of participation in adult education courses declined during the mid-1990s (Baran, Berube, Roy and Salmon, 2000; Livingstone, Hart and Davie, 1999), while perceived material barriers to participation and the incidence of informal learning both appeared to increase; at least in Ontario (Livingstone, forthcoming; Livingstone, Hart and Davie, 1999). The most recent Ontario evidence for 2000 suggests that adult course participation may have again increased and that the incidence of informal learning may have declined somewhat (Livingstone, Hart and Davie, forthcoming). The possibility of such an inverse relationship, with increased incidence of informal learning substituting for diminished access to further education courses and vice versa, should be examined by additional longitudinal surveys. But any examination of such an inverse relationship should not lose sight of the facts that there has been a dominant trend of increasing formal/non-formal course participation in the post WWII era, that informal self-directed learning and informal training remain far more pervasive than course participation, and that all four types of learning practically complement each other throughout the life course.

There is also virtually no prior systematic research beyond scattered ethnographic studies on the **relations between informal learning and training and different types of work**. Correlation analysis of the association between the time devoted to different types of work (employment, housework and community volunteer work) and informal learning specifically-related to these three types of work in the 1998 NALL survey finds that correlations are highest between community volunteer work and community-based informal learning and lowest between paid employment and job-related informal learning (Livingstone, 2001). This suggests that the greater discretion one has to engage in the work, the stronger the association between the hours of such work and the related incidence of informal learning. Prior research on relations between degrees of autonomy in paid employment and personality characteristics is of some relevance (e.g. Kohn and Schooler, 1983), but no other empirical studies have addressed these relations between types of learning and work inclusively to date. Further studies on these relations may be very useful guides for the redesign of paid work, particularly if they include the more discretionary forms of (informal) learning and (unpaid) work.

With regard to social group differences in informal learning, the most provocative findings involve aging. Prior research on aging and learning has focussed on declining speed and efficiency of skill acquisition. No comparable decline has been found to date in the incidence of informal learning. Case studies and experimental research examining the actual informal learning practices, topical foci and skill outcomes of older adults are much needed to overcome stereotypes of decline and to understand the interaction of cumulative experience and new skill acquisition. Similarly, more attention needs to be paid to the distinctively high incidence of both organized education activities and informal learning among those making the transition to adulthood. The general finding of no significant differences in incidence of informal learning activity between most other socio-demographic groups (e.g. class and income, gender, ethnicity, region, disability-based) also needs to be tested much more thoroughly against more reliable measures of informal learning over time.

The early body of empirical research on self-directed informal learning was subjected to numerous serious criticisms that any further studies of informal learning should remain sensitive to, including tendencies to individualistic, dominant class, and leading question biases, as well as the profound difficulty in validly identifying intentional informal learning that may be initiated incidentally, occur irregularly and have diffuse outcomes (see Brookfield, 1981; Livingstone, 1999).

The <u>individualistic bias</u> is the implicit assumption that you learn most of what you learn individually rather than in collective or relational context. Early empirical research focussed on individual respondents and documenting their self-directed learning projects. But the collective aspects of our informal learning, the social engagements with others, are an integral part of any actual knowledge acquisition process, as some leading general theories of learning now clearly acknowledge (see Engstrom, Miettinen and Punamaki, 1999). Collectively-conducted learning processes continue to constitute the least well documented part of adults' informal learning. But the individualistic bias can be partially overcome by research methods that either engage with people in the social contexts of their lives (such as participant observation), or by questioning them collectively (as in discussion groups of various kinds). Even the individual interview methods required for a large-scale survey can more intentionally address the social relational aspects of respondents' specific learning activities.

The <u>dominant class bias</u> charge emerged because the vast majority of the early research was conduced with white, middle-aged, professional-managerial people and university students. But further research done with cross-sections of less affluent classes, visible minority groups and seniors do support the general conclusions that Tough (1978) made about self-directed learning being fairly common in its incidence across most social groups (see Adams et al., 1999). The dominant group bias surely can be more fully addressed with greater sensitivity and respect for other standpoints by further in-depth studies

that document the informal learning of working class and underclass people, women and people of various sexual orientations, visible minorities, disabled people, and older and younger generations. This requires extensive pilot testing of instruments with representatives of subordinate social groups to try to ensure their general accessibility.

In the enthusiasm of the early empirical research in the self-directed learning tradition, there was often a tendency toward leading questions, in the sense of "of course you do informal learning, don't you" and "what is it?", as opposed to asking people whether or not they do it, and taking what they tell you as valid. The basic procedure in early studies was for the interviewer to react skeptically to responses that denied any significant informal learning, and then proceed to a series of probes to ferret out actual informal learning projects (Tough, 1979). The genuine difficulty here is that researchers do have to engage in an initial orienting process precisely because most people do not recognize much of the informal learning they do until they have a chance to reflect on it. Later research studies have been less leading, including a growing tradition of situated learning case studies that have confirmed the extensiveness of intentional informal learning activities through direct observation (e.g. Lave and Wenger, 1991). Future surveys and other studies should give respondents numerous thematic cues based on prior empirical studies but accept all responses as given without further probing which could encourage respondents to overestimate their informal learning activities.

If we recognize the general importance of informal learning for the reproduction and development of social life, and if we agree that it is feasible to get past the early critiques to engage in empirical research that may validly identify people's intentional informal learning, there are still other major challenges. These include recognizing incidentally-initiated learning, irregularly timed intentional learning, and the distinction between learning processes and learning outcomes. The predominance of planned learning may be clear enough when we are talking about schooling decisions. But you can do informal learning any time, any where, with anyone. It can be planned in a very deliberate way or it can be stimulated with no prior intent. Many informal learning activities that result in the accomplishment of new knowledge, understanding or skill begin in an ad hoc, incidental manner and are only consciously recognized after the fact (see Eraut, 1999). Retrospective views of the amount of time spent in incidentally-initiated informal learning processes are likely to remain very approximate underestimates. But approximations of the significance of important phenomena should be preferred to either continuing to ignore them or to imposing false precision in measurement efforts.

Informal learning never ends. But much of it occurs in irregular time and space patterns. You can learn life-course shaping or influencing knowledge at any place and within a very short period of time, in a moment of "perspective transformation" (Mezirow, 1991) or an "organizing circumstance" (Spear, 1988). Much of the most important learning that we do occurs in these moments of transition, whether it happens to be a birth, a death, a marriage, divorce, a transition between careers or locations, or some other major influential event that provokes us into a concentrated period of informal learning. Survey respondents' estimates of the amount of time they devote to informal learning activities are helpful to compare the perceived amounts of time available for such activities in different social groups. But such estimates of learning patterns should not obscure the fact that the most significant informal learning continues to occur in these irregular, intense moments of our lives (see Merriam and Clark, 1995)

It is also important to observe that the amount of time that people spend in learning processes is not necessarily positively correlated with successful learning outcomes. A less capable learner may have to spend considerably more time to achieve a successful outcome. Much of the research to date on adult learning focuses on documenting the types of learning processes that people are involved in, the amount of time that they engage in these processes and their particular substantive areas of learning. Very little of this research addresses the question of the actual competencies that people have gained from their informal learning activities. This is at least partially because many of the criteria of successful informal

learning are themselves informally determined. No external authority can pose an inclusive set of criteria about either the curriculum that should be learned or satisfactory levels of achievement, let alone ensure inter-subjectively meaningful comparisons between informal learning outcomes. So, the initial recourse here again is to self-recognition: what have learners accomplished through informal learning activities that they perceive as significant?

Much further grounded research is needed to document actual processes of informal learning and training, prevalent thematic foci and quality of outcomes in order to generate clearer profiles of intentional informal learning. Only then will we be able to begin to carefully assess the impact of informal learning and training on specific skill development as well as the aggregate effects of informal learning and training on such central social policy areas as workplace productivity, community development and effective citizenship.

(4) Future Research

It is should now be clear that informal self-directed learning and informal training constitute the most elusive and shifting domains of adult learning but also the most extensive. **It is imperative to establish benchmarks of the general incidence, basic contents and modes, and any differential patterns of intentional informal learning and training, and to continue to track trends in relation to other dimensions of adult learning.** Further large-scale sample survey research on informal learning and training is necessary to obtain reliable, representative estimates of the extent and content of informal learning in the adult population. We should be under no illusion that a survey questionnaire is capable of uncovering the deeper tacit levels of either individual or collective knowledge gained in informal learning and training practices. But by building on prior research and critiques, we should now be able to generate useful profiles of the basic patterns of the incidence of intentional informal learning and training and examine their association with organized forms of education more fully than most prior studies.

In sum, future research on adults' informal learning should adhere to the following basic guidelines:

• focus on intentional informal learning that respondents can identify as significant for themselves;
• distinguish informal learning occurring outside established curricula from non-formal education occurring in organized courses and workshops;
• distinguish between self-directed informal learning that most people do on their own individually and collectively, and informal education and training that involves a mentor;
• assess informal learning activities in relation to other activities of everyday life including different types of paid and unpaid work, and allow for simultaneity with some of these other activities;
• provide sufficient contextual and thematic referents in any empirical study for respondents effectively to identify their major intentional informal learning activities, without leading them into gratuitous overestimates;
• insist on directly examining the informal learning practices of all adults without any presumption that specific socio-demographic groups (e.g. older people) have greater or lesser learning predispositions.

Canadian researchers are exceptionally well positioned to lead the world in future cumulative research on adult informal learning and training. **The NALL survey of informal learning practices**, as the most inclusive recent large-scale survey on informal learning, should provide a useful benchmark for further studies of many aspects of informal learning and training. The NALL followup survey in mid-2000 with a sub-sample (N=328) of the original respondents has begun to explore questions of informal learning pattern consistency over time and more in-depth content analysis (Livingstone, Hart and Stowe, forthcoming). Periodic replication of major components of the NALL survey should be carefully considered by relevant government agencies (see Appendix 1 for suggested questions for replication). It should be noted again that, as most prior surveys, the NALL 2000 survey gives little attention to the

important distinction between self-directed informal learning and informal training by mentors.

While longitudinal studies tracing the organized and informal learning and training practices of specific age cohorts would provide the most accurate adult learning profiles, time and cost factors probably will make it very difficult to mount such studies. Canadian researchers especially can immediately build on and expand terms of existing cross-sectional studies to aid policy decision-making on pressing social and economic issues. The insertion of modules on informal learning and training in regularly scheduled Statistics Canada surveys could be most cost effective, provide the first reliable trend estimates on patterns of adult informal learning and allow ongoing analysis of relations of informal learning and training with non-formal education and schooling, and with employment conditions.

The **Adult Education and Training Survey (AETS)** is the most evident candidate, providing regular opportunities to link informal learning activities with formal and non-formal education as well as labour force status and most other relevant socio-demographic factors. The AETS provides a very large sample which would allow complex multivariate analyses of the factors related to informal learning. Prior AETS surveys have not addressed informal learning. It is imperative that pilot work begin immediately to ensure that a suitable module on informal learning is integrated into the next scheduled survey.

The **General Social Survey (GSS)** also offers regular opportunities to link informal learning questions to educational participation, other time uses and most other relevant socio-demographic variables. In particular, integration of organized and informal learning as both primary and secondary activities into more inclusive time budget surveys should be pursued to obtain more fully contextualized estimates of adult learning time in relation to other constrained and "free time" activities (see Robinson and Godbey, 1997). Such measures are central to more accurate documentation of the actual extent of lifelong learning and could also be a valuable component of a wider audit of social participation. The GSS provides a well-established survey instrument for this purpose. But the previously noted limitations of the few informal learning items in the 1998 GSS must be addressed.

Although only available on a five-year interval, the **Canada Census** should also be considered for inclusion of a basic module on informal learning, if preliminary AETS and GSS applications prove fruitful.

Both the **Workplace and Employer Survey (WES)** and the **Survey of Labour and Income Dynamics (SLID)** could be especially valuable in providing opportunities to document the incidence of informal training by mentors and non-taught or self-directed informal learning among workers, and to relate these learning activities systematically to patterns of participation in organized formal and non-formal education programs and courses, income levels, occupational patterns and firm productivity levels. While some items on prior WES surveys refer to informal training or self-learning, they typically conflate informal and formal training in the context of a series of questions focussed on organized training programs (for example, items 23d and j on the 1999 WES ask "Did you receive any informal or formal training related to that change in technology?"). Further analyses of the relative perceived importance of on-the-job-training by mentors and self-learning of job tasks by respondents to the 1999 WES in relation to other aspects of employment training may provide useful insights for development of future surveys. The SLID does not appear to have addressed informal training at all to date, but it offers further possibilities for tracing changes in participation in individual workers' informal self-learning and training in relation to changing employment conditions.

Canada's leading role in the **International Adult Literacy Survey (IALS)** and the current **Adult Learning and Lifeskills Survey (ALLS)** also provide an exceptional opportunity to initiate comparative international surveys of adult informal learning and training patterns. The July 2000 draft contains one multi-item question on informal learning (i.e. F33 a-h):

We are interested in the many ways that people acquire skills and knowledge. Now I will ask you some questions about your involvement in learning activities that were NOT part of a formal learning activity such as a course or a program of study.
During the last 12 months...did you do any of the following learning activities?
a) visit trade fairs...
b) attend short lectures...
c) read manuals...
d) go on guided tours...
e) use computers,,,to learn...
f) learn by watching, getting help or advice from others but NOT from course instructors
g) learn by yourself by trying things out, doing things for practice, trying different approaches to doing things
h) learn by being sent around an organization to learn different aspects of that organization

This question is superior to the recent Finnish, U.K. and 1998 GSS attempts to estimate informal learning because it provides some specific activity contexts and themes to aid response; as distinct from the 1998 GSS, it does not erroneously pose such informal learning only as an alternative pursued instead of formal/non-formal education courses. In addition, in items f) and h), it provides some opportunity to estimate the relative incidence of informal education by mentors and self-directed informal learning. However, the ALLS effort remains a single question posed after a large number of questions about initial schooling, adult credit courses and non-credit courses, their duration, content and purposes, which serve to predispose respondents to think of learning in terms of organized education. The question provides no definition of informal learning except as a negative residual of formal learning activity. The specific items in the ALLS question display no awareness of the cumulative tradition of self-directed learning research; virtually none of the items from the "Tough repertoire" appear to be replicated. The ALLS format does not allow one to relate the learning activities identified with spheres of paid and unpaid work and general interests as the NALL/OISE surveys do. The items listed are not discrete from each other. For example, "c) reading manuals" and "e) using computers to learn" can be part of "g) learning by yourself"; "d) going on guided tours" and "h) being sent around organizations" may cover the same learning activity. In addition, item b) on attending workshops may be confounded with the standard item on adult educational participation (F1 in the ALLS interview schedule) which also refers to workshops. In prior Statistics Canada surveys and in the definitions of types of adult learning suggested in this paper, attendance at workshops has been regarded as part of non-formal education. In short, the current ALLS effort to estimate informal learning activities merely scratches the surface of an already ploughed field. Nevertheless, Statistics Canada should continue to pursue future initiatives in collaborative research on informal learning and training through this unique international network.

Further case study research addressing the issues identified in the prior section is imperative to increase comprehension of the dimensions and dynamics of adult informal learning. The growing international body of case study research on learning at work guided by critical learning theories provides many suggestive conceptual leads (e.g. Lave and Wenger, 1991; Engestrom and Middleton, 1996; Garrick, 1998). The numerous case studies conducted under the auspices of NALL during the past four years offer valuable sensitizing information on Canadian conditions (see, for example, Church, Fontan, Ng and Shragge, 2000, and other case studies cited in the NALL Year 4 Productivity Report on the website: www.nall.ca). The most thorough international assessment of informal vocational training to date suggests that further household surveys should add supplementary in-depth sections using contextuating lists of self-learning and informal training activities and that these measures should be complemented by time diaries of short duration (e.g. two weeks) in order to estimate the volume of

learning-by-doing activities (OECD, 1997).These recommendations are applicable to other spheres of informal learning beyond employment as well, both because of our limited current knowledge and the likelihood of spillover effects of learning from the spheres of unpaid work and general interests. Such instruments, drawing on lists from the NALL surveys and case studies, could be used in conjunction with any of the previously cited Statistics Canada surveys, particularly GSS time use surveys. In any event, given the demonstrated large extent of informal learning activity, and the current rudimentary state of knowledge about its dimensions and dynamics, more in-depth research on informal learning remains warranted and should be supported in addition to survey research by agencies funding studies of education and learning.

In the longer term, the more comprehensive documentation of organized and informal learning activities in relation to the existing job structure should provide a more adequate basis for developing employment policies that are more responsive to the actual employability of the current and prospective labour force. For example, the issues of whether there are skill surpluses or shortages in specific sectors and whether training or economic policy initiatives are most appropriate really requires such intelligence to aid effective, sustained government decision-making. There is mounting evidence, based on organized education and training measures, that there is now no general skill shortage in Canada (Lavoie and Roy, 1998). There is also a large body of empirical evidence indicating that aggregate educational attainments have increased much quicker than aggregate educational requirements to perform existing jobs in both Canada and the U.S. (see Livingstone, 1998). Taking systematic account of the informal self-learning and training relevant to actual job performance would provide a fuller understanding of the complex relations between learning and employment. Aside from the small but important proportion of Canadian adults with low literacy and increasing marginalization from the credential-based labour market, the most basic problem now may not be skill supply shortages but underemployment of people's available skills and knowledge in our current job structure. In any event, neither researchers nor public policy makers can afford to ignore the growing problem of training-employment gaps, and more comprehensive ongoing surveys of adult learning are clearly needed to inform employment and training policies. As the OECD (1997) Manual for Better Training Statistics suggest, the temptation to focus narrowly on the most easily identifiable and immediately applicable aspects of informal vocational learning in such research should be resisted.

Efforts to measure returns to informal learning and training should proceed very cautiously given their elusive character, and the differential interests of employers and employees in controlling access to working knowledge. Further case studies and comparative sectoral studies should address the relative and complementary effectiveness of informal learning and training and organized education programs/courses in relation to a wide range of indicators of social benefit, including productivity and sustainable employment. But future rate of return estimates should beware of the "most immediately tangible measures bias". A pragmatic fixation on monetary rates of return for the employed excludes consideration of benefits of education and training for the unemployed and non-employed (about 40% of adult population), non-monetary benefits for many employed (consumption effectiveness, informed citizenship, familial health), and macro-societal benefits (besides GDP these include Quality of Life measures). While both the extent and rates of return to informal learning and training are much less well documented than either schooling or non-formal training, informal learning and training could well turn out to be the most productive investments in terms of an inclusive cost-benefit analysis.

Concluding Remarks

While there are conceptual difficulties in distinguishing informal self-directed learning, informal training, non-formal education and formal education, as well as methodological challenges in generating reliable readings of informal learning and training, the empirical research to date has at least established that adults' intentional informal learning activities are both very extensive and warrant continuing

documentation and assessment in relation to other economic and social activities. The insights generated by the adult education research on self-directed learning should be taken into fuller account in future large-scale surveys of informal learning activities. The consistent finding of virtually all prior studies that the incidence of adult informal learning is not closely related to either prior formal educational participation or most socio-demographic differences suggests that the more effective recognition of prior informal learning in both work settings and educational institutions--through further research and fuller use of PLAR mechanisms-- could stimulate both greater educational accessibility and enhanced workplace utilization of knowledge. All of those committed to the principles of lifelong learning and the democratic development of the emergent information age (see OECD, 1998) should be interested in further exploration of the still largely hidden informal dimensions of the iceberg of adult learning. Canadian researchers and government agencies are now in an exceptionally good position to lead this exploration.

ENDNOTES

1.The relevant definitions currently used by Statistics Canada, as presented in the 1998 AETS report, are as follows:

> "**Formal education or training**-- Education or training which is formally 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;
> **Informal education** –The lifelong process whereby an individual acquires attitudes, values, skills and knowledge from daily experience, educative influences and other resources in his/her environment. These learning experiences are not structured in the form of a class under the direction of a teacher nor are they organized in a progressive sequence. They are not intended to be recognized by a formal award.
> **Informal training** --Training that is generally acquired while performing regular tasks (learning-by-doing) at work or observing somebody else performing them and that is by nature not planned nor structured."

The definitions proposed in this paper distinguish non-formal education from formal education along lines well established in the adult education literature; that is, non-formal education or further education refers to a curriculum that is organized on formal lines but involves adults beyond compulsory school age and the initial cycle of schooling. Such non-formal or further education is, in fact, the primary focus of the previous published Statistics Canada (1997, p. 10) report on adult learning. The current Statistics Canada definition of informal training appears to be essentially a work-centred variant of the definition of informal education or training proposed in this paper. That is, informal training refers to forms of learning occurring outside a structured curriculum but typically involving some form of mentoring by more experienced workers. "Learning-by-doing" at work is also cited in the Statistics Canada definition of informal training; while this could be a self-directed activity, it is more likely in a work context to be overseen by more experienced worker/trainers; informal job training always involves a more experienced mentor of some sort. The current Statistics Canada definition of informal education conflates self-directed learning which people undertake on their own with informal learning guided by more experienced mentors or "educative influences". Learning-by-doing based on the daily experience of an individual or group is self-directed learning; learning from more experienced others is typically an educative process. The distinctions proposed in this paper focus on the degree of directive control of learning; they range from dominant teacher control in formal schooling, through other forms of education and training that involve teachers/trainers/mentors (non-formal education and informal education), to dominant learner control in self-directed informal learning.

Appendix 1 Questions from the NALL 2000 Survey Suggested for Selective Replication on Future Statistics Canada Surveys

(Follow-up Interview to NALL National Survey: ISR Project 889 Main Study Questionnaire)

In our first interview, you told us about any informal learning you were doing on your own or with others outside of courses or workshops in 1998, as well as any organized education programs or courses or workshops, and paid and unpaid work you were doing.

Work and Education Status

1 Which of the following **best** describes your current employment status: are you working for pay, unemployed, a homemaker, retired, on a disability pension, or something else?

1 working for pay *(includes on holiday, strike, temporary leave, etc. goto 4)*
2 unemployed *(goto 2)*
3 homemaker *(goto 2)*
4 retired *(goto 2)*
5 student *(only if volunteered by R, goto 3)*
6 on a disability pension *(goto 6)*
7 something else *(specify & then goto 6)*_____

2 *(currently unemployed only)*
Are you looking for work?

1 yes (goto 6)
5 no (goto 6) 8 dk 9 ref (goto 6)

3 *(currently student only)*
Are you currently working for pay in a full or part time job?

1 yes
5 no *(goto 6)* 8 dk 9 ref *(goto 6)*

4 *(currently working for pay only)*
How many hours do you work for pay in a in typical week?

__ __ hours __ __minutes 98 dk 99 ref

5 *(currently working for pay only)*
Do you usually work the same hours each week or do the hours you work vary from week to week?.

1 same
2 varies
3 other (please describe)
_____
8 dk 9 ref

Only Formal Education Here

6 *(ask all)*
Are you currently a full-time or part-time student in a program at an educational institution leading to a diploma, degree, certificate or licence?

1 yes
5 no *(goto 8)* 8 dk 9 ref *(goto 8)*

7 Is that as a part time or full time student?

1 full time *(goto 10)*
5 part time *(goto 10)* 8 dk 9 ref (goto 10)

8 Have you been a full-time or part-time student in such a program (at an educational institution leading to a diploma, degree, certificate or licence) **during the past year**?

1 yes *(goto 9)*
5 no *(goto 11)* 8 dk 9 ref *(goto 11)*

9 Is that as a part time or full time student?

1 full time *(goto 10)*
5 part time *(goto 10)* 8 dk 9 ref *(goto 11)*

10 What type of diploma, degree, certificate or licence is this?
(If R has taken a course towards more than one, indicate yes for each, do not read list)

	yes	no	
a	1	2	high school diploma
b	1	2	community or private college certificate
c	1	2	private arts school, business college or technical school
d	1	2	university degree
e	1	2	trades certificate or licence
f	1	2	professional licence
g	1	2	other (specify)_____

Formal Courses--But not Towards a Diploma, Degree, Certificate or Licence

11 Other than courses towards a diploma, degree, certificate or licence, have you taken any other formal courses, workshops or organized lessons in the last year, no matter how long or short, or who offered it, on any subject?

1 yes
5 no *(goto 13)* 8 dk 9 ref *(goto 13)*

12 What type of courses, workshops, or organized lessons were they?

Interviewer: *If appropriate, remind R that we are only referring to organized courses/workshops/ lessons that do not lead to diploma, etc. Check of all that R mentions, do **not** read list.*

	yes	no	
a	1	2	job or career upgrading
b	1	2	computer training
c	1	2	English as a second language
d	1	2	basic reading, writing and number skills
e	1	2	French as a second language
f	1	2	other job-related
g	1	2	other *(specify)*_____

13 Are you planning to take any course, workshops, or organized lessons in the next few years?

1 yes
3 maybe
5 no 8 dk 9 ref

Single Informal Education Question Here

14 Many people improve their knowledge of a subject or upgrade their skills on their own or with others outside of organized courses. They read books, watch television programs, use a computer or talk to someone with the necessary expertise. Have you undertaken any of these activities during the past MONTH?

1 yes
5 no 8 dk 9 ref

General Reading Skills Rating

15 Would you say your READING skills in (English/French) are excellent, good, moderate, or poor?

1 excellent 2 good
3 moderate 4 poor 8 dk 9 ref

Time Use Questions

We want to understand better how things you learn are related to your other activities. Please think about all your activities in a TYPICAL week. Some activities may occur at the same time. Please estimate how much time you spend in each of the following activities.

16 How much time do you spend in any community activities with civic or political organizations, service clubs, fraternal or cultural organizations, sports or recreational teams, religious, neighbourhood, or school associations, or other community groups in a typical week?

__ __ hours __ __minutes *(if no time enter 0 hrs & 0 minutes)*
98 dk 99 ref

17 What about time helping out friends and neighbours in your community in a typical week?

__ __ hours __ __minutes *(if no time enter 0 hrs & 0 minutes)*
98 dk 99 ref

18 Attending education and training programs or courses and doing related studying in a typical week

__ __ hours __ __minutes *(if no time enter 0 hrs & 0 minutes)*
98 dk 99 ref

For the following activities we would like to know how much time you spend at them on BOTH typical WEEKdays and typical WEEKEND days.

Interviewer: If R mentions that he/she does not work a "typical" Monday to Friday week, tell R to think of typical work days (code as week days) and typical non-work days (code as weekend days).

19 First, on a typical week day, how much time do you spend looking after one or more of your own children or the children of others, without pay?

If clarification required: respondent should include: time when respondent was doing another activity while looking after the children, time when looking after the children was shared with someone else; time when the child was having a nap, but exclude time the child spent sleeping during the night; time the child spent at school, or at a friend's or in organized activities. (if no time enter 0 hours and 0 minutes)

a __ __ hours __ __minutes *(for a typical week (work) day)*
98 dk 99 ref

b And what about on a typical weekend (non-work) day?

__ __ hours __ __minutes *(if no time enter 0 hrs & 0 minutes)*
98 dk 99 ref

20 In a typical week day how much time do you spend doing unpaid housework activities including cooking, cleaning, caring for an elderly or disabled family member, shopping, home budgeting, yard work or home maintenance for members of your household, or others?

a __ __ hours __ __minutes *(if no time enter 0 hrs & 0 minutes)*
98 dk 99 ref

b And what about on a typical weekend day?

__ __ hours __ __minutes *(if no time enter 0 hrs & 0 minutes)*
98 dk 99 ref

21 How about time spent sleeping and napping? (How much time do you spend doing this on a typical week day and on a typical weekend day?) *(if no time enter 0 hours and 0 minutes)*

a __ __ hours __ __minutes *(for a week day)*
98 dk 99 ref
b __ __ hours __ __minutes *(for a weekend day)*

98 dk 99 ref

22 Watching TV? (How much time do you spend doing this on a typical week day and on a typical weekend day?) *(if no time enter 0 hours and 0 minutes)*

a __ __ hours __ __minutes *(for a week day)*
98 dk 99 ref
b __ __ hours __ __minutes (for a weekend day)
98 dk 99 ref

23 Reading newspapers/magazines/books? (How much time do you spend doing this on a typical week day and on a typical weekend day?) *(if no time enter 0 hours and 0 minutes)*

a __ __ hours __ __minutes *(for a week day)*
98 dk 99 ref
b __ __ hours __ __minutes *(for a weekend day)*
98 dk 99 ref

24 How much time in a typical week day do you spend TRAVELING for all of these activities, including commuting to and from employment, trips for household needs or recreation, in community volunteer activities, to and from education programs, and travel for any other purposes? *(Interviewer: if appropriate, tell R their best guess is ok.)*

a __ __ hours __ __minutes *(for a week day)*
98 dk 99 ref

b And traveling for all these activities in a typical week end day?

__ __ hours __ __minutes *(for a weekend day)*
98 dk 99 ref

25 And how much free time do you have to use as you wish for your own recreation and relaxation on a typical week day? *(if no time enter 0 hours and 0 minutes)*

a __ __ hours __ __minutes *(for a week day)*
98 dk 99 ref

b And how much time on a typical weekend day? (if no time enter 0 hours and 0 minutes)

__ __ hours __ __minutes *(for a weekend day)*
98 dk 99 ref

Now we understand how you spent most of your time in a typical week. Next we would like to know about the INFORMAL learning activities you did OUTSIDE OF formal classes, workshops or organized education programs. Please think about anything you did through which you acquired some new knowledge, skill or understanding. This could be learning with others or by yourself, and as a separate activity or combined with your other activities. I'll ask you about ANY INFORMAL LEARNING in a typical week related to employment, household activities, voluntary community activities, and other general interests.

26 First, tell me if, in a typical week, if you learn anything informally outside of courses, workshops, or organized lessons in each of the following areas related to past, present or possible future paid employment. This includes any knowledge, skills or understanding you have gained that has to do with employment. Please answer "yes" or "no" to each of the following.

Interviewer, if when you are reading these questions to the respondent he/she volunteers that they have never worked, been retired for years, etc. and, as a result, the questions are not appropriate to their circumstances, circle not appropriate and go to 29

1 not appropriate

	yes	no	
a	1	5	What about keeping up with general knowledge in your employment field?
b	1	5	Informal learning of new job tasks?
c	1	5	Learning about computers?
d	1	5	Learning other new technologies or equipment
e	1	5	Supervisory or management skills?
f	1	5	Team work, problem-solving, communication skills?
g	1	5	Employee rights and benefits?
h	1	5	Workplace politics?
i	1	5	Learning informally about occupational health and safety?
j	1	5	Literacy and numeracy skills?
k	1	5	Learning another language?
l	1	5	Any other knowledge or skill related to employmen

(if no informal learning related to employment, past present or possible future goto 29)

27 Can you please tell me more about your recent informal learning related to employment?

(Interviewer: if required, probe to obtain a detailed explanation: use the following:
- can you provide a more specific description of these learning activities related to employment
- when it comes to employment activities what do you most enjoy learning about?
- remind R of the things they have said yes to above and ask for more details?
- tell R they can provide more information about informal learning related to employment activities that they have not already mentioned.)

_____

_____

_____

28 Thinking about all the informal learning outside of courses you do related to employment, about how much time is involved in a typical week? Just give me your best guess.

__ __ hours __ __minutes *(if no time enter 0 hrs & 0 minutes)*
98 dk 99 ref

29 Please tell me if, in a typical week you learn anything informally outside of courses in each of the following areas related to your household activities. This includes any knowledge, skills or understanding you have gained that had to do with any household activities. Please answer "yes" or "no" to each of the following. In a typical week do you spend any time. . .

	yes	no	
a	1	5	Learning about home maintenance?
b	1	5	Learning about home cooking?
c	1	5	About cleaning?
d	1	5	Learning about child care?
e	1	5	About elder care?
f	1	5	Learning about shopping for clothes, groceries, and so on?
g	1	5	Learning about home renovations?
h	1	5	About gardening?
i	1	5	About home budgeting?
j	1	5	Any other knowledge or skill related to household duties?

(if no informal learning related to household activities goto 32)

30 Can you please tell me more about your recent informal learning related to household activities?

(Interviewer: if required, probe to obtain a detailed explanation: use the following:
- can you provide a more specific description of these informal learning household activities?
- when it comes to household activities what do you most enjoy learning about?
- remind R of the things they have said yes to above and ask for more details?
- tell R they can provide more information about informal learning related to household activities that they have not already mentioned.)

_____

_____

_____

31 Thinking about all the learning you do in a typical week outside of courses related to household activities, about how much time is involved? Just give me your best guess.

__ __ hours __ __minutes *(if no time enter 0 hours and 0 minutes)*
98 dk 99 ref

32 Please tell me if, in a typical week, you learn anything informally outside of courses in each of the following areas related to community activities. This includes any knowledge, skills or understanding you have gained that had to do with any community activities.

	Yes	No	
a	1	5	Did you do any learning about fund-raising?
b	1	5	What about learning organizational or management skills?
c	1	5	Learning about social issues?
d	1	5	About political decision making?
e	1	5	About communication skills?

f	1	5	About interpersonal skills?
g	1	5	Learning about other technical skills?
h	1	5	Any other skills or knowledge related to community activities?

(if no informal learning related to community activities goto 35)

33 Can you please tell me more about your recent informal learning related to community activities?

(Interviewer: if required, probe to obtain a detailed explanation: use the following:
- can you provide a more specific description of these informal learning community activities?
- when it comes to community activities what do you most enjoy learning about?
- remind R of the things they have said yes to above and ask for more details?
- tell R they can provide more information about informal learning related to communities they have not

_____

_____

_____

34 Thinking about all the informal learning you do in a typical week outside of courses related to community activities, about how much time is involved? Just give me your best guess.

__ __ hours __ __minutes *(if no time enter 0 hrs & 0 minutes)*
98 dk 99 ref

35 Please tell me if, in a typical week, you learn anything informally outside of courses in each of the following areas of general interest. This includes any knowledge, skills or understanding you have gained that had to do with any general interest. Please answer "yes" or "no" to each of the following. . .

	yes	no	
a	1	5	Did you do any learning about sports or recreation?
b	1	5	What about learning practical skills?
c	1	5	Learning about cultural traditions or customs?
d	1	5	Learning leisure or hobby skills?
e	1	5	Social skills or personal development?
f	1	5	Learning about health and well-being?
g	1	5	Learning about finances?
h	1	5	About computers or computing skills?
i	1	5	Language skills?
j	1	5	About science and technology?
k	1	5	Learning about intimate relationships?
l	1	5	Religion or spirituality?
m	1	5	Environmental issues?
n	1	5	Pet care?
o	1	5	About public and political issues?
p	1	5	Any other skills or knowledge related to your general interests?

(if no informal learning related to other activities goto 39)

36 Can you please tell me more about your recent informal learning related to general interest activities?

(Interviewer: if required, probe to obtain a detailed explanation: use the following:
- can you provide a more specific description of this informal learning?
- when it comes to other activities what do you most enjoy learning about?
- remind R of the things they have said yes to above and ask for more details?
- tell R they can provide more information about informal learning related to other activities that they have not already mentioned.)

_____

_____

_____

37 Thinking about all the informal learning outside of courses you do in a typical week related to these general interests, about how much time does this involve? Just give me your best guess.

__ __ hours __ __minutes *(if no time enter 0 hrs & 0 minutes)*
98 dk 99 ref

38 Please think about ALL of your informal learning activities outside of courses in a typical week, this can be informal learning related to employment, household activities, community activities, or general interest. Which of the following did you use, did you . . . (read list)

yes no
a 1 5 read books, manuals or other written materials?
b 1 5 talk to others with knowledge
c 1 5 use computers
d 1 5 the Internet
e 1 5 videos, cassettes, DVDs, and so on
f 1 5 T.V.
g 1 5 any other way *(specify)*

39 What do you most enjoy learning about informally? *(Interviewer fill in either part a or part b)*

Part A: *R provides an answer (if required probe with what specifically do you enjoy about this type of informal learning?*

_____

_____

Part B: *R says they have not completed any informal learning (recently) ask:*

Can you tell me why you think you have not done any informal learning recently?

40 Still thinking more generally, do you think that you are now doing much more, somewhat more, about the same, somewhat less, or much less informal learning outside of courses than the last time we

interviewed you in fall, 1998?

1 much more 2 somewhat more
3 about the same 4 somewhat less
5 much less 8 dk 9 ref

41 Why do you think you are doing (more/less/ about the same) amount of informal learning?

_____

_____

_____

42 How would you generally rate the importance of what you have learned through informal learning activities compared to what you have learned in formal courses: is informal learning more important, about the same, or less important than learning in formal courses

1 more important
3 about the same
5 less important 8 dk 9 ref

43 Please tell me why you rate the informal learning you do this way?

_____

_____

44 How related is most of your informal learning outside of courses to the education programs and courses you have taken: would you say very closely related, somewhat related, somewhat unrelated, or completely unrelated?

1 very closely related
2 somewhat related
3 somewhat unrelated
4 completely unrelated 8 dk 9 ref

45 Please tell me more about why you say this?

_____

_____

_____

46 Just to finish up we have a couple more questions about time. First, how often do you feel rushed? Would you say: every day, a few times a week, about once a week, about once a month, less than once a month, or never?

1 every day 2 a few times a week

3 about once a week 4 about once a month
5 less than once a month 6 never 8 dk 9 ref

7 On which main activity would you choose to spend more time if you could?

(Interviewer; do not read list, code only one, if r gives two or more ask them if they had to choose . . . , if response is not on the list write in under other.)

1 time with family (spouse, children, boyfriend, girlfriend)
2 relaxation - personal time
3 practising sports
4 crafts of hobbies
5 outdoor activities
6 reading - writing
7 courses, workshops, organized lessons
8 informal learning activities
9 paid work
10 housework
11 community volunteer work
12 other(specify)_____
98 dk 99 ref

48 We would like to get a more specific idea of your reading level in (English/French). For each of the following three sorts of reading activities, please tell me whether you can do it easily, with some help, with a lot of help, or can you not do it.

a First what about finding the correct dosage information on a medicine bottle: can you do this easily, with some help, with a lot of help, or can you not do it?

1 easily 3 with some help
5 with a lot of help 7 can not do it 8 dk 9 ref

b What about reading a bicycle owner's manual to determine how to check the recommended position for the bike seat?

1 easily 3 with some help
5 with a lot of help 7 can not do it 8 dk 9 ref

c Reading complex reports about clock radios to identify important differences between types, models and brands

1 easily 3 with some help
5 with a lot of help 7 can not do it 8 dk 9 ref

.References

Aarts, S. et al. (1999). A Slice of the Iceberg: Cross-Canada Study of Prior Learning Assessment and Recognition. Toronto: Cross-Canada Partnership on PLAR.

Adams, M. et al. (1999). Preliminary Bibliography of the Research Network for New Approaches to Lifelong Learning (NALL). Toronto: Centre for the Study of Education and Work, OISE/UT.

Anyon, J. (1980). Social Class and the Hidden Curriculum of Work. Journal of Education. 162: 67-92.
Australian Bureau of Statistics. (1999). Survey of Education and Training 1997. Canberra: Government of Australia.

Baran, J. G. Berube, R. Roy and W. Salmon. (2000). Adult Education and Training in Canada: Addressing the Key Knowledge Gaps. Background Paper, Applied Research Branch, Human Resources Development Canada.

Beinhart, S. and P. Smith. (1998). National Adult Learning Survey 1997. Sudbury, Suffolk: Department for Education and Employment. Research Report No. 49.

Belanger, P. and S. Valdivielso (eds,) 1997. The Emergence of Learning Societies. Oxford: Elsevier.

Blomqvist, I., H. Niemi and T. Ruuskanen. (1998). Participation in Adult education and training in Finland 1995. Helsinki: Statistics Finland.

Brockett, R. and R. Hiemstra. (1991). Self-Direction in Adult Education: Perspectives on Theory, Research and Practice. New York: Routledge.

Brookfield, S. (1981). The Adult Education Learning Iceberg. Adult Education (UK). 54,2; 110-118.

Burnett, J., D. Vincent and D. Mayall. (1984). The Autobiography of the Working Class: An Annotated Critical Bibliography. Brighton: Harvester.

Burns, G. (1999). Dichotomization of Formal and Informal Education, The Marginalization of Elders, and Problems of Aboriginal Education and Native Studies in the Public Educational System. In P. Gamlin and M. Luther (eds.) Exploring Human Potential: New Directions in Facilitating growth in the New Millennium. [forthcoming]

Candy, P. (1993). Self-Direction for Lifelong Learning: A Comprehensive Guide to Theory and Practice. San Francisco: Jossey-Bass.

Center for Workforce Development. (1998). The Teaching Firm: Where Productive Work and Learning Converge. Newton, Mass.: Education Development Center.

Church, K., J-M. Fontan, R. Ng and E. Shragge. (2000). Social Learning among People Who Are Excluded from the Labour Market. Part One: Context and Studies. NALL Working Paper Series, Paper No. 14.

Darrah, C. (1992). Workplace Skills in Context. Human Organization 51, 3: 264-273.

Darrah, C. (1995). Workplace Training, Workplace Learning: A Case Study. Human Organization 54, 1: 31-41.

Ekos Research Associates. (1993). Reskilling Society (Phase I): Industrial Perspectives. The National Survey of Employers on Training and Development Issues. Hull, Que.: Human Resources Development Canada.

Engestrom, Y. and D. Middleton (eds.) (1996). Cognition and Communication at Work. New York: Cambridge University Press.

Engestrom, Y., R. Miettinen and R-L. Punamaki (eds.) (1999). Perspectives on Activity Theory. Cambridge: Cambridge University Press.

Eraut, M. (1999). Non-formal Learning in the Workplace--The Hidden Dimension of Lifelong Learning: A Framework for Analysis and the Problems It Poses for the Researcher. Plenary paper presented at the First international Conference on Researching Work and Learning, Leeds University, September 10-12.

Freire, P. (1970). The Pedagogy of the Oppressed. New York: Herder and Herder.

Freire, P. (1994). The Pedagogy of Hope. New York: Herder and Herder.

Garrick, J. (1998). Informal Learning in the Workplace. London: Routledge.

Gereluk, W., D. Briton and B. Spencer. (1999). Learning About Labour in Canada. NALL Working Paper Series , Paper No. 8.

Hamper, B. (1992). Rivethead: Tales from the Assembly Line. New York: Warner Books.

Hiemstra, R. (1976). Lifelong Learning. Lincoln: Professional Educators Publications.

Johnstone, J. and R. Rivera. (1965). Volunteers for Learning: A Study of the Educational Pursuits of American Adults. Chicago: Aldine.

Knowles, M. (1970). The Modern Practice of Adult Education: Andragogy versus Pedagogy. Chicago: Follett.

Kohn, M. and C. Schooler (1983). Work and Personality: An Inquiry into the Impact of Social Stratification. Norwood, NJ.: Ablex.

Kusterer, K. (1978). Know How on the Job: The Important Working Knowledge of "Unskilled" Workers. Boulder: Westview Press.

LaValle, I. And S. Finch. (1999). Pathways in Adult Learning. Sherwood Park, Nottingham: Department for Education and Employment. Research Report No. 137.

Lave, J. and M. Wenger. (1991). Situated Learning: Legitimate Peripheral Participation. Cambridge: Cambridge University Press.

Lavoie, M. and R. Roy. (1998). Employment in the Knowledge-Based Economy: A Growth Accounting Exercise for Canada. Ottawa: Applied Research Branch, Strategic Policy, HRDC.

Leean, C. and B. Sisco. (1981). Learning Projects and Self-Planned Learning Efforts among Undereducated Adults in Rural Vermont Washington, D.C.: National Institute of Education.

Livingstone, D.W. (1998). The Education-Jobs Gap: Underemployment or Economic Democracy. Boulder: Westview Press, and Toronto: Garamond Press [1999 paperback].

Livingstone, D.W. (1999). Exploring the Icebergs of Adult Learning: Findings of the First Canadian

Survey of Informal Learning Practices. Canadian Journal for the Study of Adult Education. 13,2: 49-72.

Livingstone, D.W. (2001). Working and Learning in the Information Age: A profile of Canadians . Ottawa: Canadian Policy Research Networks. [forthcoming]

Livingstone, D.W. (Forthcoming). Reproducing Education Inequalities in a Learning Society: Conceptual Gaps and Recent Canadian Research on Barriers to Adult Education. Canadian Journal for the Study of Adult Education.

Livingstone, D.W., D. Hart and L.E. Davie. (1997). Public Attitudes Toward Education in Ontario 1996: Eleventh OISE/UT Survey. Toronto: University of Toronto Press.

Livingstone, D.W., D. Hart and L.E. Davie. (1999). Public Attitudes Toward Education in Ontario 1998: Twelfth OISE/UT Survey. Toronto: University of Toronto Press.

Livingstone, D.W., D. Hart and L.E. Davie. (forthcoming). Public Attitudes Toward Education in Ontario 2000: Millennial OISE/UT Survey. Special issue of Orbit, March,2001.

Livingstone, D.W., D. Hart and S. Stowe. (2001). Adult Informal Learning and Training in Canada: Findings of the 1998 NALL National Survey and 2000 Followup Survey. Toronto: Cnetre for the Study of Education and Work. [forthcoming].

Machlup, F. (1962). The Production and Distribution of Knowledge in the United States. Princeton: Princeton University Press.

Merriam, S. and M.C. Clark. (1991). Lifelines: Patterns of Work, Love, and Learning in Adulthood. San Francisco: Jossey-Bass.

Mezirow, J. (1991). Transformative Dimensions of Adult Learning. San Francisco: Jossey-Bass.

Mocker, D. and G. Spear. (1982). Lifelong Learning: Formal, Nonformal, Informal, and Self-directed. Information Series, No. 241. Columbus, OH.: ERIC Clearinghouse on Adult, Career, and Vocational education, National Center for research in Vocational Education, Ohio State University.

Molander, B. (1992). Tacit Knowledge ans Silenced Knowledge: Fundamental Problems and Controversies. In B. Goranzon and M. Florin (eds.) Skill and Education: Reflection and Experience. London: Springer-Verlag.

Moll, L. (ed.) (1990). Vygotsky and Education: Instructional Implications of Sociohistorical Psychology. Cambridge: Cambridge University Press.

Moore, B. (1966). Social Origins of Dictatorship and Democracy: Lord and Peasant in the Making of the Modern World. Boston: Beacon.

NALL. (1998). Lifelong Learning Profiles: General Summary of Findings from the First Canadian Survey of Informal Learning. (www.nall.ca).

OECD. (1991). Enterprise Training. OECD Employment Outlook 1991. Paris: OECD.

OECD. (1993). Industry Training in Australia, Sweden and the United States. Paris: OECD.

OECD. (1998). Lifelong Learning: A Monitoring Framework and Trends in Participation. in Centre for Educational Research and Innovation. Education Policy Analysis 1998. Paris: OECD, pp. 7-24.

OECD Documents. (1997). Manual for Better Training Statistics: Conceptual, Measurement and Survey Issues. Paris: OCED.

Padberg, L. (1991). A Study of the Organization of Learning projects of Adults of Low Formal Educational Attainment. Ph.D. dissertation, University of Missouri.

Penland, P. (1977), Self-Planned Learning in America. Pittsburgh: University of Pittsburgh.

Reber, A (1993). .Implicit Learning and Tacit Knowledge. New York: Oxford University Press.

Robinson, J. and G. Godbey. (1997). Time for Life. University Park: Pennsylvania State University Press.

Senge, P. (1990). The Fifth Discipline: The Art and Practice of the Learning Organization. New York: Doubleday.

Spear, G.E. (1988). Beyond the Organizing Circumstance: A Search for Methodology for the Study of Self-Directed Learning. In H. Long and associates (eds.) Self-Directed Learning: Application and Theory. Athens, GA.: University of Georgia Adult Education Department.

Stadler, M. and P. Frensch (eds.) (1998). Handbook of Implicit Learning. Thousand Oaks, CA.: Sage.

Statistics Canada (1997). Adult Education and Training in Canada: Report of the 1994 Adult Education and Training Survey. Ottawa: Statistics Canada.

Statistics Canada. (1999). Public Use Tape for the General Social Survey 1998. Available for the University of Toronto Data Archive.

Thomas, A. and M. Collins. (1999). Prior Learning Assessment "Values" Statements. NALL Working Paper Series, Paper No. 13.

Tough, A. (1971). The Adult's Learning Projects. Toronto: OISE Press.

Tough, A. (1978). Major Learning Efforts: Recent Research and Future Directions. Adult Education Quarterly 28,4: 250-263.

Tough, A. (1979). The Adult's Learning Projects: A Fresh Approach to Theory and Practice in Adult Learning. Toronto: OISE Press.

U.S. Department of Labor, Bureau of Labor Statistics. (1996). The 1995 Survey of Employer- Provided Training. Washington, D.C.: U.S. Department of Labor.

Vygotsky, L. (1978). Mind in Society. Cambridge: Harvard University Press.

CE 061658

0

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

REPRODUCTION RELEASE

(Specific Document)

I. DOCUMENT IDENTIFICATION:

Title: "ADULTS' INFORMAL LEARNING: DEFINITIONS, FINDINGS, GAPS AND FUTURE RESEARCH"

Author(s): DAVID LIVINGSTONE,

Corporate Source: NALL (NEW APPRIACHES TO LIFELONG LEARNING)

Publication Date: 2001

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, *Resources in Education* (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following three options and sign at the bottom of the page.

The sample sticker shown below will be affixed to all Level 1 documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

Level 1

☒

Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archival media (e.g., electronic) *and* paper copy.

The sample sticker shown below will be affixed to all Level 2A documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2A

Level 2A

☐

Check here for Level 2A release, permitting reproduction and dissemination in microfiche and in electronic media for ERIC archival collection subscribers only

The sample sticker shown below will be affixed to all Level 2B documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2B

Level 2B

☐

Check here for Level 2B release, permitting reproduction and dissemination in microfiche only

Documents will be processed as indicated provided reproduction quality permits.
If permission to reproduce is granted, but no box is checked, documents will be processed at Level 1.

I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

Sign here, please

Signature: DWL	Printed Name/Position/Title: PROF. D.W. LIVINGSTONE, DIRECTOR, NALL
Organization/Address: OISE/UT 252 BLOOR ST. TORONTO, ON	Telephone: 416-923-6641 x 2703 / FAX: 416-926-4751
	E-Mail Address: dlivingstone@oise.utoronto.ca / Date: 25 April 2001

(over)