

UCLA

UCLA Previously Published Works

Title

Participation in Adult Learning

Permalink

<https://escholarship.org/uc/item/4sk0f8c8>

ISBN

9780080448947

Author

Desjardins, R

Publication Date

2010

DOI

10.1016/b978-0-08-044894-7.00037-3

This is the submitted version of the following article:

Desjardins, R. (2011). Participation in adult learning. In Rubenson, K. (ed.), *International Encyclopedia of Adult Learning and Education* (pp. 205-215). Oxford: Elsevier. [also published as Desjardins, R. (2010). Participation in adult learning. In Peterson, P., Baker, E., & McGaw, B. (eds), *International Encyclopedia of Education*, volume 1, third edition (pp. 240-250). Oxford: Elsevier.]

Participation in adult learning (4361 words)

Author

Richard Desjardins

Abstract

This entry presents an internationally comparative overview of adult learning patterns. Emphasis is placed on who is participating in adult learning and the observed unequal chances to participate. The entry covers three overarching questions that are central to participation research: a) What is the extent of participation? b) Who is participating? c) Why are certain people or groups participating, either more or less, or not at all?

Keywords

Participation research; adult learning; adult education and training; informal learning; measurement of learning; patterns; determinants; motivations

Suggestions for cross-reference (if they exist)

See italicized text that is underlined in main text

Introduction

Participation research is concerned primarily with three overarching questions: What is the extent of participation? Who is participating? Why are certain people or groups participating, either more or less, or not at all? Traditionally the focus has been on adult education and training (AET), rather than a broader notion of adult learning. In this entry a distinction is made between AET and informal learning where possible.

What is the extent of participation?

AET

Participation rates based on the International Adult Literacy Survey (IALS, 1994-1998) are reported in Table 1A. Table 1B and 1C supplement with other international comparative data sources, and although the data from the alternative sources are not strictly comparable, the overall patterns are fairly consistent. In general, it can be inferred that rates vary substantially across countries, falling into four broad groups:

- Close to or **exceeding 50%**. The Nordic countries: Denmark, Finland, Iceland, Norway and Sweden.
- Between **35-50%**. Countries of Anglo-Saxon origin: Australia, Canada, New Zealand, the United Kingdom and the United States. A few of the smaller Northern European countries: Luxembourg, the Netherlands and Switzerland.

- Between **20-35%**. Features remaining Northern European countries: Austria, Belgium (Flanders) and Germany. Some Eastern European countries: Czech Republic, Slovenia. Some Southern European countries: France, Italy and Spain.
- Consistently **below 20%**. Some Southern European countries: Greece and Portugal. Some additional Eastern European countries: Hungary and Poland. Chile, the only South American country where comparable data are available.

However, according to 2003 data from the Adult Literacy and Lifeskills Survey (ALLS), Canada, Switzerland, and the United States appear to have climbed into the exceeding 50% category.

INSERT TABLE 1A,B,C ABOUT HERE

The mean number of hours per adult is also reported in Table 1A. This combines the incidence and volume of AET and thus offers a more comprehensive measure of the total effort. Denmark, Finland and New Zealand report an average of over 100 hours of AET per adult over a twelve-month period – this is equivalent to every adult aged 16-65 spending over 2.5 working weeks in AET per year. Countries featuring high participation but low average volume display comparatively lower adult learning per capita. Switzerland, the United Kingdom and the United States have participation rates around 35-50%, but after adjusting for low volume, countries in the 20-35% range, such as Ireland and Slovenia, surpass them in their total AET effort. The former are considered to follow an extensive model, in which a fairly low volume is provided to a large number of adults, whereas the latter are considered to follow an intensive model, where provision is concentrated on fewer people (OECD, 2003a).

Changes in AET

Many national data sources point toward a general increasing trend in AET participation over the last 25 years. This is mostly attributed to the rising concern for human capital over the last decades since increases in AET for job-related reasons account for much of the rise since the early 1980s (Boudard and Rubenson, 2003:267). More recent trend data from the European Union Labour Force Survey (ELFS) reveals a mixed pattern – participation rates appear to have generally increased between 1995 and 2000, but this does not hold for all countries (OECD, 2003a:39).

Types of AET

It can be seen from the IALS data in Table 1A that job-related AET is dominant. Personal and social related AET can also play a substantial role. Comparatively high rates of participation in non-job related AET are reported in Finland, the Netherlands and Switzerland. It is however, difficult to distinguish between different types of AET. Often this is assessed on the basis of individuals' reasons for participating. But Rubenson (2001) showed that there are many reasons for participation and that these are interrelated. Further, Desjardins et al. (2006) demonstrated that the way in which questions are phrased has implications for interpreting the complex motivations associated with participation. Ideally, surveys should permit respondents to state a number of different reasons for participating, but also ask them to rank them according to importance.

Definitions and measurement

Most AET data sources focus on measuring formal provision, but increasingly there is an interest in non-formal and informal activities. This poses some challenges, especially in defining what counts as adult learning. Increasingly, it is difficult to distinguish adult learners from first time students

attending regular school or university. Pragmatic solutions are to consider all the learning activities of the adult population aged 25-65, or if possible to consider the population aged 16-65 but exclude full time students aged 16-24. A more sophisticated definition, if the data allow for it, is to count the studies of the following groups as participation: full time students aged 16-24 who are sponsored by an employer or union/association; full time students over the age of 19 who are enrolled in primary or secondary programmes; and full time students older than 24 who are enrolled in post-secondary programmes. The latter is significant because there can be substantial overlap between what is considered adult learning and higher education, especially in countries where the higher education system features a high degree of openness to non-traditional adult students.

Another issue is the reference period for which participation rates are based on. For example, the IALS uses a 12 month reference period, whereas the European Union Labour Force Survey uses a four-week period. Shorter reference periods are adequate for reporting participation rates of populations, but are inadequate for an in-depth understanding of adult learning pathways, both in terms of understanding the take up of adult learning, and its interaction to the provision of opportunities.

Informal learning

Informal learning encompasses a broad range of learning activities (Livingstone, 1999). Patterns of engagement thus depend on what is being measured. Of the nine informal learning measures in the Adult Literacy and Life-skills Survey (ALL, 2003), two dominate. Learning by doing is mentioned by around 90% while learning by watching ranges from a high of 87% in Switzerland to a low of 77% in Canada. These former measures cover a broad range of non-specific experiences; therefore it is difficult to interpret their significance or value. More specific informal learning activities, related to work and culture, are particularly prevalent in Switzerland and less common in Canada and the United States with Norway somewhere in between. A vast majority of the Swiss (86%) report that they read manuals or other materials compared to 55% for Canada and the United States. The Swiss more often note that they learn by being sent around their organization or attend special talks. Further, they more frequently (44%) go on guided tours at museums or galleries than Canadians, Americans or Norwegians (30%). Comparative measures of learning through the interactive use of information technology reveal only small differences in the use of computers or internet, while learning with the help of video, television and tapes vary from a high of 52% in the United States to a low of 35% in Switzerland.

Who is participating?

Observed differences in participation have been linked to inequalities of opportunity and living conditions so the demographic and social make-up of participation becomes an important issue.

AET

For a range of countries (18 OECD and 2 non-OECD) IALS data show that those who are women, older, from low socio-economic backgrounds (as reflected in their parents' level of education), low-educated, low-skilled, in low-skill jobs, unemployed, or immigrants are the least likely to participate in adult learning (see Table 2). In many cases people belong to more than one group at the same time, which exacerbates observed differences (see Desjardins et. al, 2006:74).

INSERT TABLE 2 ABOUT HERE

Informal learning

Some research has stressed that the ‘law of inequality’ does not apply to informal learning (e.g., Livingstone, 1999). But this depends on the measure of informal learning used. Measures that are all inclusive or very general and refer to non-specific situations of learning by doing or learning by watching show that informal learning is more or less a universal activity (see above). In contrast, measures which are context specific and reflect learning that is likely to enable the creation of or access to resources, tend to reveal a clear pattern of inequality. Rubenson et al. (2007) find that groups with low levels of educational attainment report a substantially lower engagement in reading or using computers to learn. There is limited research on the extent to which different forms of informal learning contribute to strengthening resources that have economic and social value.

Why are certain people or groups participating more than others?

Determinants

Different characteristics can be used to explore and reveal patterns of participation in greater detail. As above this can be done by distinguishing among salient groups such as those delineated by: age, sex, social class, level of education, level of skill, and occupational, employment and minority status. This broadens our empirical understanding of who participates. But a determinants analysis goes a step further by including a range of factors that are thought to be relevant in explaining the observed patterns. This may include the same characteristics used to define a group, but the difference in a determinants analysis is that there are underlying theories that link the characteristics to the observed pattern, and thus have explanatory value. Participation research has explored various explanatory factors.

Disciplinary perspectives

Different explanations have been put forth ranging from those rooted in psychological, sociological and economic perspectives (Tuijnman and Fägerlind, 1989). The most appealing ones have an interdisciplinary character since they are more useful for building a comprehensive understanding of adult learning participation. It is rare however, that different disciplinary perspectives are brought together. There is no unified or comprehensive theoretical perspective guiding participation research. One downside to complex inclusive models is that it can inhibit empirical testing and limit the usefulness of results, especially with regard to specific situations or needs. For example, practitioners may be interested specifically in knowing what information is best suited for altering adult beliefs about the likely outcomes of participating. In this situation, a psychological perspective may provide the necessary depth. Ideally, a portfolio of models, which can be applicable in different contexts for different purposes, needs to be built up.

Further research requires explanatory models or theories that are disciplinary, multi-disciplinary and multilevel. Rubenson (1987) mentions three approaches to model building. The first focuses on the individuals psychological factors – the micro level. The second emphasizes external factors and their structural conditions which influences the individual – the macro level. The third approach looks into the interaction between individual and social forces. Each type of explanation is essential but neither is sufficient in isolation from each other.

Explanations based on psychological perspectives

While motivation can equally be a social phenomenon that is driven by external expectations which are placed on individuals – such as family, workplace and community demands for competencies – many explanations focus solely on individual psychological factors. The psychological perspective

focuses primarily on personality traits, intellectual abilities and other behavioural dispositions that center on attitudes, expectations, intentions, and other motivational attributes.

Personality traits and abilities

Individuals have a degree of agency, so cognitions, beliefs and psycho-social capabilities feature as crucial elements that can explain participation. Participatory behaviour is the result of diverse interactions between individuals' beliefs, skills, capabilities and values. Rubenson (1987) stresses the importance of self-concepts such as self-esteem and self-efficacy in predicting participation. He suggests that adults who feel good about themselves are more likely to succeed in achievement oriented situations. Conversely, an important benefit of adult learning is improved beliefs about self-efficacy (Hammond, 2003), pointing to a cycle of recurrent learning.

Previous learning experiences are key factors predicting further learning (Tuijnman, 1989; Boudard, 2003; Desjardins, 2004). Independent of educational attainment, Tuijnman (1989) finds that cognitive ability also exerts a positive influence on the accumulation of learning experiences over the lifespan. Educational attainment reflects accumulated knowledge, skills and other traits that are associated with the probability of continued learning.

A common trait shared by early school leavers is a lack of self confidence with regard to learning because of bad pedagogical experiences (Illeris, 2004a). Adults with low levels of education are less likely to participate because they lack readiness both in terms of knowledge and skills as well as their motivation to learn. A low readiness to learn is a substantial dispositional barrier to participation.

Motivational orientations and reasons

Motivational orientations toward learning can be important predictors of participation. Houle (1961) proposed a typology which suggests that participants are either goal-oriented (use learning to accomplish objectives), activity-oriented (find meaning in the circumstances of learning) or learning-oriented (seek knowledge for its own sake). Boshier (1971; 1982; Boshier and Collins, 1985) developed the Education Participation Scale (EPS) to assign motivational orientation scores to individuals which allowed for in-depth investigation into the relationships among orientations and various demographic and other characteristic variables. Although the amount of variance explained by socio-demographic variables was small, research by Boshier and colleagues revealed that those with low education, low occupational status and low income were most likely to participate for social contact, social stimulation, community service and external expectations reasons. In contrast, those with higher levels of education, occupational status and income were more often enrolled for professional advancement and cognitive interest reasons.

These findings partly corroborate with Maslow's (1954) hierarchy of needs theory which suggested that the motivating forces behind participation are conditional on whether subordinate needs are satisfied. Individuals with lower order needs for survival which remain to be satisfied are *deficiency-motivated* whereas those working toward higher order needs are *growth-motivated*.

Arguably, obtaining secure employment is a lower order need and thus the implication by Boshier's finding that professional advancement is associated with a higher order need is puzzling. A more broadly based measure of job-related AET reveals that most adults participate for job-related reasons whether associated with low socioeconomic status or not (e.g., OECD, 2003a; Desjardins et al., 2006).

Learning for job-related reasons is linked to goals of finding a job, finding a better job, being promoted at work, keeping a job and/or becoming more efficient in one's current job. It is a dominant reason reported (at least 60%) in recent surveys such as IALS, ALL and the 2000 EU Barometer, and reaches as high as 90% in Australia, Denmark, Norway, the United Kingdom and the United States. The divide between job- and non-job-related reasons however, is not so clear cut (Courtney, 1992:50), which may be a reason why attempts to link distinct motivational orientations to participation explain little variation. Further, adults may find their reasons for participating difficult to articulate and they might not always be aware of them all (Darkenwald and Merriam, 1982: 136; Rubenson, 2001). Even a temporary lack of a specific reason may be seen as a reason for participating since the activity itself can be a way to obtain or rediscover new goals that could be pursued (Courtney, 1992:87).

Attitudes and intentions

Research has also pointed to the importance of attitudes toward learning. Houle (1961) claimed that every adult has an underlying conviction about the nature and value of learning which influences their opinion and hence decision to participate. Darkenwald and Hayes (1988) constructed an Adult Attitudes toward Continuing Education Scale (AACES) to investigate the relationships among attitudes and participation. They found that the importance attributed to learning appears to be the most decisive factor in predicting participation, but importance in relation to what needs further attention (see below).

Explanations based on social perspectives

Individualistic perspectives have had serious consequences for how inequalities in participation are understood and what measures are deemed adequate to support lifelong learning for all. Individuals face several constraints in acting independently and making their own free choices. The shortcomings of some of the narrower the individualistic psychological and economic perspectives can be addressed by turning to the various external (and structural) influences on participation such as social and economic institutions (government policy, organizations, industries, markets, and classes) at the macro level, and work structures at the micro level. Separately, life history approaches to studying participation have broadened the structuralist approach by embracing much of the criticism of the individualistically oriented theories. This is done by situating the role of individual subjective experiences and actions as well as collective ones in their wider social and cultural contexts. *The entry on "barriers "* contains a discussion among the relationships between life situation and participation as well as institutional barriers and participation, which are an elaboration of explanations based on social perspectives.

Explanations based on economic perspectives

Most but not all explanations based on economic perspectives have tended to be dominated by individualistic approaches to the decision to participate. A common assumption is that individuals make a rational choice to participate or not, and that this decision is based on the information they have regarding the costs and benefits of participating. But individuals are substantially limited by the imperfect information they have regarding the costs and benefits. There are also risks inherent with realizing the benefits which rational agents may not want to undertake.

Cost limitations and credit constraints

Desjardins et al. (2006) underscored the point that a lack of external economic support (from employers, governments) and credit constraints, especially for disadvantaged groups, is a significant

barrier to participation. Even if individuals would like to participate because the future benefits outweigh the immediate costs, they may not have the financial means to do so because of credit constraints and imperfect capital markets. When individuals are not capable of borrowing money to invest in learning, because they do not have any collateral, and which would otherwise be profitable, then market failure occurs.

Financial support and incentive to invest factor

The *long arm of the job* is becoming longer and stronger in terms of financing as well as motivation. IALS data show that about two thirds of participants receive employer support (OECD and Statistics Canada, 2000). There are indications that participation may not always be voluntary and there may be increasing pressure to participate in job-related AET (Hight, 1998; Carré, 2000). Employer supported AET is often suggested by employers, although a large portion that is suggested by employees is also supported by the employer (Tuijnman and Hellström, 2001). Many adults also participate for job-related reasons even though they do not receive financial support from their employer which reveals the strength of the long arm of the job. Self-financing is on average the second most common source of financial support, and in some countries it is the dominant source.

Firms represent a large portion of the training market (OECD, 2003a:51-53). The Second Continuing Vocational Training Survey (CVTS2) data show that over 70% of firms in the majority of European countries provide support for AET (European Commission, 2002). Adults who work in large firms, especially those that compete on global markets and undergo significant technological change and/or changing work practices, appear to receive more AET.

The supply of employer-supported opportunities appears to be primarily targeted at prime-age employees who are highly educated and skilled. Plausibly, employers consider adults with higher levels of education more trainable. Older workers, women and immigrants tend to face reduced opportunities for employer-supported AET (Desjardins et al., 2006). These tendencies are consistent with overall patterns of participation (see Table 2).

There is much debate about whether current levels of investment in AET are adequate. The potential for under investment arises due to several market failures, and can be linked to both employer and employee behaviour (see Desjardins et al., 2006). Overall, evidence shows that an under-provision of AET is likely to occur in all OECD countries (see OECD, 2003b:248).

Government support, the least common source of financial support, tends to benefit those who already display high rates of participation, namely younger adults, higher-educated and those who are in white-collar, high-skill occupations, rather than vulnerable groups. This is likely due to pressures for government policies to seek increases in efficiency through the adoption of a more market-oriented approach and outcomes-based funding. This increases the likelihood that AET initiatives/programmes will target those easiest to recruit and most likely to succeed. Initiatives to reach disadvantaged groups often correspond better to the demands of the advantaged (Rubenson, 1999:116). Few countries have effective public policies and structures in place to help those who are hard to reach. The Nordic countries are among the few, and accordingly they tend to show comparatively higher rates of participation among the low educated (see Table 2).

Nature of work and skill requirements factor

Recent research suggests that industrial and occupational structures of countries are instrumental in structuring participation. This perspective moves beyond the narrow individualistic one and encompasses a social and structural perspective. The world of work places substantial demands on individuals which necessitates continuous learning and periodic upgrades of competencies, acting as a substantial motivating force for many adults.

Recent research suggests that literacy practices at work – in particular the frequency and variety of reading practices – is one of the most significant determinants of participation in job-related AET (Desjardins et al., 2006). More generally, the workplace is a learning space (Illeris, 2004b:77-89) but opportunities to learn new things on the job vary with the characteristic and position of the job, which exacerbates inequalities in adult learning (Åberg, 2002). Workers who are already better positioned in the labour market have more opportunities and incentives to acquire and develop competencies. Further, the structure of occupations and production in a particular country are likely to bear a strong influence on the distribution of work-related adult learning.

Explanations based on individuals' interactions with social influences

Explanatory models of participation that include social and individual forces as well as their interaction have been proposed by a number of researchers. Some of the above explanations build on these but here a brief review of the more well known ones is provided. These models include most of the proximal and distal variables that are hypothesized as relevant to participation and are thus useful for building a comprehensive understanding of participation. The underlying reasons why adults participate (or not) are complex, featuring dynamic and interactive feedback effects that occur at multiple levels.

McClusky (1963) presented an individual-social interactive model called the power-load-margin model. "Load" represents the internal and external demands placed on the individual; "power" represents the agency of the individual to carry the load; and "margin" is the ratio of load to power which signifies the likelihood to participate. By linking Maslow's (1954) hierarchy of needs model with Lewin's (1947) force field analysis model, Miller (1967) suggested that when individual needs and social forces both point to a commonly perceived demand for participation, then participation will be high. Similarly, Boshier's (1971) congruence model suggested that when actual and perceived notions of self, others, and educational environment diverge, the less likely adults will participate.

Rubenson's (1975) expectancy valence model made a link between an individual's expectations about the value of participating, their attitude toward participating and the likelihood of actual participation. According to this theory, participation will occur and persist if the learning activity is consistent with the learner's needs and expectations. According to Rubenson the outcomes will depend on class since attitude and readiness are conditioned by structural and cultural factors. A model by Pryor (1990; Pryor and Pryor, 2005), which applied Ajzen and Fishbein's theory of reasoned action to participation, focuses on more proximal variables. He suggested that participation is determined by the intention to participate and that the intention is determined by the attitude toward learning and perceptions of social pressures to participate. The latter is a subjective norm that is based on inferences about behavioural expectations of others. According to Pryor (1990), attitude tends to dominate over the subjective norm and attitudes toward learning are driven primarily by a set of beliefs regarding the outcomes associated with learning.

Cross (1981) developed a psychosocial interaction model called the chain-of-response model, which suggested that participation relates to a complex chain of responses made by the individual vis-à-vis social circumstances. Beginning with a self evaluation and a formation of attitudes toward learning, the importance of learning and the expectations associated with it are evaluated in relation to current needs, and in turn this is influenced by available information, available opportunities and institutional barriers.

Variants of these and other models exist and have been tested empirically. Base on a Swedish longitudinal study, Tuijnman (1989) puts an advanced set of structural models, which include psychological, sociological and economic variables, to rigorous empirical testing. He reported that collectively, social origins, socioeconomic status, cognitive ability, initial levels of education, attitudes toward education, and specific interests in adult learning explain no more than 10-26% of the variance in the participation variable. Boudard (2003) more or less confirmed these patterns for a range of IALS countries.

Further research

Major research questions that need to be addressed deal with the outcomes of adult learning and how this is linked with motivations to participate. Which mechanisms are more relevant for early development compared to the possible impact of later interventions? Is later intervention merely compensatory, with little chance of making a difference? Or could there be possibility for good timing later on? A better understanding of among several relationships is needed:

- Substitutes and complements to more traditional schooling contexts.
- Formal education structures and adult learning, such as the degree of stratification and vocational specificity of pathways, and the extent and distribution of AET among different countries. This requires comparative data at both the system and individual levels.
- Occupational/industrial structures and adult learning. The structure of occupations and production in a particular country are likely to bear a strong influence on the distribution of job-related adult learning.
- Market failures and inequalities in participation. Market imperfections that may relate to learning outcomes are likely to have complex implications that spill over into other policy sectors, and thus reforms should not be undertaken without careful consideration of the relevant trade-offs. More specific information is necessary to devise viable strategies to overcome market failures and hence optimize the allocation and distribution of resources invested in the total learning effort.
- Government policy, governance and adult learning. How are government policies regarding adult learning formed and coordinated at the intersection of various stakeholders and how does this shape the provision, purpose, and content of adult learning as well as participation?

Bibliography

Åberg, R. (2002). Överutbildning - ett arbetsmarknadspolitiskt problem. In Abrahamson, K., Abrahamsson, L., Björkman, T., Ellström, P-E., and Johansson, J. (eds.), *Utbildning kompetens och arbete*, pp. 41-62. Lund: Studentlitteratur.

Boudard, E., and Rubenson, K. (2003). Revisiting major determinants of participation in adult education with a direct measure of literacy skills. *International Journal of Educational Research*, 39(3), 265-280.

- Carré, P. (2000). Motivation in adult education: from engagement to performance. In: *Proceedings of the 41st Annual Adult Education Research Conference*, pp. 66-70. Vancouver: University of British Columbia.
- Boshier, R.W. (1971). Motivational orientations of adult education participants: A factor analytic exploration of Houle's typology. *Adult Education*, 21(2), 3-26.
- Boshier, R.W. (1982). *Education participation scale*. Vancouver: Learning Press.
- Boshier, R.W., and Collins, J.B. (1985). The Houle typology after twenty-two years: A large-scale empirical test. *Adult Education Quarterly*, 35(3), 113-130.
- Boudard, E. (2001). *Literacy proficiency, earnings and recurrent training: a ten country comparative study*. Stockholm: Institute of International Education.
- Courtney, S. (1992). *Why adults learn: Towards a theory of participation in adult education*. New York: Routledge.
- Cross, K.P. (1981). *Adults as learners: Increasing participation and facilitating learning*. San Francisco: Jossey-Bass.
- Darkenwald, G.G., and Merriam, S.B. (1982). *Adult education: Foundations of practice*. New York: Harper and Row.
- Darkenwald, G.G., and Hayes, E.R. (1988). Assessment of adult attitudes towards continuing education. *International Journal of Lifelong Education*, 7(3), 197-204.
- Desjardins, R. (2004). *Learning for well being: studies using the International Adult Literacy Survey*. Stockholm: Stockholm University.
- Desjardins, R., Rubenson, K., & Milana, M. (2006). *Unequal chances to participate in adult learning: International perspectives*. Paris: UNESCO.
- European Commission (2002). *European social statistics: Continuing vocational training survey detailed tables (CVTS2 – Data 1999)*. Luxembourg: European Communities.
- Hammond, C. (2003). How education makes us healthy, *London Review of Education*, 1(1), 61-78.
- Hight, J.E. (1998). Young worker participation in post-school education and training. *Monthly Labor Review*, 121(6), 14-21.
- Hosmer, D.W., and Lemeshow, S. (1989). *Applied logistic regression*, New York: John Wiley and Sons.
- Houle, C.O. (1961). *The inquiring mind*. Madison, Wisconsin : University of Wisconsin Press.
- Illeris, K. (2004a). *Adult education and adult learning*. Copenhagen: Roskilde University Press.
- Illeris, K. (2004b). *Learning in working life*. Copenhagen: Roskilde University Press.
- Lewin, K. (1947). Frontiers in group dynamics: Concept, method and reality in social science, *Human Relations* 1: 5-41.
- 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.
- Maslow, A. H. (1954). *Motivation and personality*. New York: Harper and Row.
- McClusky, H.Y. (1963). The course of the adult life span. In Hallenbeck W.C. (ed.), *Psychology of adults*. Washington, DC: Adult Education Association.
- Miller, H.L. (1967). *Participation of adults in education: A force field analysis*. Boston, Massachusetts: Center for the Study of Liberal Education of Adults.

- OECD (2003a). *Beyond rhetoric: Adult learning policies and practices*. Paris: OECD.
- OECD (2003b). *Employment outlook*. Paris: OECD.
- OECD and Statistics Canada (2000). *Literacy in the information age: Final report of the International Adult Literacy Survey*. Paris: OECD; Ottawa: Statistics Canada.
- Pryor, B.W. (1990). Predicting and explaining intentions to participate in continuing education: An application of the theory of reasoned action. *Adult Education Quarterly*, 40(3), 146-57.
- Pryor, B.W., and Pryor, C.R. (2005). *The school leader's guide to understanding attitude and influencing behaviour: Working with teachers, parents, students, and the community*. Thousand Oaks, CA: Corwin.
- Rubenson, K. (1975). *Participation in recurrent education*. Paris: CERI/OECD.
- Rubenson, K. (1987). Participation in recurrent education: A research review. In Schuetze, H. G., and Istance, D. (eds), *Recurrent education revisited: Patterns of participation and financing*. Stockholm: Almqvist and Wiksell.
- Rubenson, K. (2001). *Measuring motivation and barriers in the Adult Education and Training Survey: A critical review*. Hull, Quebec: Applied Research Branch, Human Resources Development Canada.
- Rubenson, K., Desjardins, R., and Yoon, E. (2007). *Adult learning in Canada: A comparative perspective*. Ottawa: Statistics Canada.
- Tuijnman, A., and Fägerlind, I. (1989). Measuring and predicting participation in lifelong education using longitudinal data. *Scandinavian Journal of Educational Research*, 33(1), 47-66.
- Tuijnman, A.C. (1989). *Recurrent education, earnings, and well-being: A fifty-year longitudinal study of a cohort of Swedish men*. Stockholm: Almqvist and Wiksell.
- Tuijnman, A.C., and Hellström, Z. (2001). *Curious minds: Nordic adult education compared*. Copenhagen: Nordic Council of Ministers.

Biography

Richard Desjardins is Associate Professor in the Economics of Education at the Danish University of Education, Denmark. He holds a doctoral degree in International and Comparative Education from the International Institute of Education at Stockholm University, Sweden. He was involved in the analysis phases of the International Adult Literacy Survey and the Adult Literacy and Lifeskills Survey.

Tables

Attached in separate EXCEL file