Skills development for realizing the workforce competence reserve (SkillsREAL) – A new research project

Tarja Tikkanen, HSH
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Introduction and purpose

Lifelong learning has been much discussed and been adopted as the guiding principle in educational policies in many countries. However, empirical research delving into it, beyond the surveys on participation rates, is less common. A new project by the Norwegian Research Council (NFR) Skills development for realizing the workforce competence reserve (SkillsREAL, 2014-17) is aiming to add knowledge in this area. The purpose of the study is to explore, how to best optimize the learning and competence potential of groups of adults at risk of labor exclusion, outside the labour force or underemployed. Complex relationships between adult skills, characteristics and attitudes (as measured by OECD’s PIAAC study), adult participation in learning activities and in the labour market (register data) will be explored. The purpose of the paper here is to present this new research project funded from the call on Adults’ Learning under the NFR’s Utdanning 2020 program.

Research objectives in SkillsREAL

The project objectives are: (i) to investigate the relationships between adult skills, characteristics and attitudes and participation /non-participation in working life; (ii) to investigate and compare the relationships between adult skills, characteristics and attitudes in regards their participation/non-participation in learning activities in different contexts across the Nordic countries; (iii) to investigate how organization and enactment of (non-formal, informal, formal) learning experiences within workplaces, can optimally promote learning and working potential among adults; (iv) to identify, develop, implement, and analyze best practice and innovative solutions for optimizing the working and learning capacities in the target groups through innovative pedagogical use of new technology in adult education provisions. Particular target groups are young adults, immigrants, and older workers.

Background in SkillsREAL

The point of departure for the SkillsREAL project is the situation in which both shortage of labour and competence reserve exist in parallel. The Norwegian economy continues to thrive in
the midst of European and International crises. While overall indicators for human and social capital are positive, Norway, however faces a number of challenges in regards to optimalising and maintaining labour force participation. Life expectancy in Norway continues to increase giving a higher percentage of older workers in the work force (Rønne, 2011), the level of education has increased substantially over the last 30-40 years but the school drop-out rate is high and certain groups have very poor basic skills (reading, writing, maths, digital skills) (Evaluation of the BKA-program - Proba, 2012), approximately 10 percent of the population receives a disability pension while a further 5 % are in receipt of rehabilitation benefits (SSB, 2012a). Sick-leave rates are high, 6.4% in 2012 (3.qrt) (8% for women and 4.9% for men) (SSBb, 2012) and were the highest among the Nordic countries in 2010 (Norden 2012). These trends have made it necessary to sharpen the focus on the goal to build a sustainable welfare society (White Paper nr. 13, 2011-2012 Utdanning for velferd). To this end it is crucial to extend the collective work input, the total working time in the course of life – ‘it is not oil but our total work input that is the basis for our welfare’ and it also secures the welfare in the future (White Paper nr 12, 2013 Perspektivmeldingen 2013). This necessitates change to current situation in three directions/domains, all bearing relevance to adult education and LLL: (i) that older workers stay longer in work (postponing retirement age), (ii) better school-work transition for the young, as well as (iii) better access to jobs for those who are outside of it. Indeed, the key is to utilize and manage better the heads and hands in the national pool of potential competence (McKinsey, 2013). The knowledge generated in the proposed SkillsREAL-project will contribute to new solutions to this challenge. Our general framework is the theory, practice and policy of lifelong learning.

**Lifelong learning, adult education & (co-)constructivism**

SkillsREAL–project focuses on core issues in the area of adult education, as identified by Aspøy and Tønder (2012). Central issues in the Norwegian competence discourse and policy will be addressed. These include: competence policy directed towards the development and use of competence in various formal and informal arenas and on different levels; striving to secure best possible match between the national human resources/capital and the skills needed in the labour market and society; seeking to counterforce marginalization and to guarantee good basic competence as a fundament for learning throughout the life, and; seeking also to feed creativity and innovation potential among individuals, in organizations and in society (Hagen & Kaloudis, 2008; White Paper nr. 44, 2008-2009 Utdanningslinja; White Paper nr. 7, 2008-2009 Et nyskapende og bærekraftig Norge; White Paper 16, 2006-2007 …og ingen sto igjen).

**Lifelong learning as a means and end.** Although the selected target groups represent very different sectors of population, partly in very different life-phases and –situations, the perspective uniting these groups in SkillsREAL is adult learning and education under the broader concept of lifelong learning (LLL). LLL is basically about a “good-circle”. On a societal plan it is the key instrument to in-demand, updated skills and competence, which is the key to employment, which again lays the fundament on productivity and prosperity of national economies. On an individual plan it has both intrinsic and instrumental value: People, who
remain active in learning throughout their life, pursuing their interests and dreams, tend to live happier, longer, and healthier lives, and are more flexible, creative and productive individually and in working life, feeding individual wellbeing and prosperity in society (research on this thematic has been carried out in Universities of Ulm by Spizer & al.; Erasmus of Rottendam by Veehoven et al; Stanford by Carstensen et al; Harvard by Berkman et al; Chicago early by Csikszentmihalyi). Thus, it is not surprising that lifelong learning has become a highly interdisciplinary field, strongly incorporated into economics and sociology ("knowledge society", “knowledge economies”). LLL is a key to in individual and societal well-being.

For both LLL and employment to happen three factors needs to be in place: capability, motivation and opportunity for learning and work. Opportunities for both are very good in Norway, for most adults. The general level of participation in LLL is high, although with significant differences among various subgroups (e.g. employed vs. unemployed, older vs. younger – Learning Conditions Monitor, SSB, 2012). To understand capability, the SkillsREAL has a strong focus on basic skills (as measured by PIAAC – see Appendix 1), which form the basis for further skills development. Partly, we shall also investigate the status and role of generic skills and their relationships with basic skills, to the extent it will be possible, and the role these play in participation in learning and employment. Understanding and investigating motivation as a part of this equation, is the most challenging aspect, as it is highly intertwined with many other factors.

Inter-disciplinary and systemic approach is what LLL stands for, and is necessary for understanding adults’ participation in learning and employment. At present the field is fragmented and we know relatively little of the complex interplay between the relevant factors (Aspøy & Tønder, 2012) and of how these relationships develop over time. Most importantly little is still known about effects of various education programmes and interventions (Utredning om forskning på voksnes læring).

Thematically SkillsREAL locates at the intersection of two three disciplines: (i) skills, learning motivation and participation (education) (ii) learning at work and competence/ knowledge management (HRM, economics), and (ii) skills for inclusion and combating marginalization (sociology). Furthermore, experimenting with innovative learning methods and measures utilizing new technology, calls for the perspective of designing learning innovations (social innovations). Figure 1 is an illustration of these main themes and elements in the proposed project.

Figur 1. Key themes, target groups and the context in SkillsREAL
When it comes to explaining participation in formal education much of the single motives and deterrents (as “checklists”) and simple models based on these have been know for quite a while: as Yang, Blunt and Butler pointed out already in 1994 “a few theoretical models have successfully demonstrated predictive utility (p. 83 - quoted in Tikkanen, 1998, p. 16)” – and the state of knowledge seem to remain relatively stable (Aspøy & Hagen Tønder, 2012). The contemporary explanatory perspectives are informed by constructive accounts of adult learning emphasising ‘human agency’ (Billett, 2008; Billett & vanWoerkom, 2006), conceptions of self and identity (Olesen, 2006; Paloniemi, 2006), and emotional competence (Gendron, 2004) as explaining older workers’ engagement in work, learning as well as professional development activities, such as continuing education and training.

Characteristics to the research on learning at work and knowledge management, and skills strategies, has been an intense search for new research approaches and theories, crossing disciplinary boundaries. Theories on workplace learning commonly adopt a comprehensive approach, acknowledge systems thinking (Senge, 1994), activity theory and organic models, constructivism being a corner stone for most of these lines of thinking. Constructivism, although a rather vague label attached to a range of views and models, is also the basis for most of the current theorising on LLL. It is also the theoretical corner stone in SkillsREAL.

Methodology and the work plan

**Methodology.** SkillsREAL is built on a multi-method approach employing both quantitative and qualitative methods. The point of departure will be the statistical analyses of the PIAAC data combined with register data (constituting approximately 40% of the project work). These quantitative analyses will be complemented with in-depth qualitative workplace case-studies in public and private enterprises (approx. 30%). The remaining work consists of field work as of exploration of and experimenting with innovative learning design for pedagogical use of new technology, and as identification and evaluation of “best practice”

**Work plan.** Table 1 describes the main methods and data sources in relation to the four research objectives. The study will be carried out in phases, partly overlapping. **The first phase** will comprise of two sets of statistical analysis based on the PIAAC: regional/national and a Nordic one. Another element in the first phase will be a conceptual-theoretical analysis (CTA) based on the research literature within the SkillsREAL objectives. **The second phase** constitutes of in-depth case studies in public and private enterprises, preceded with a statistical analysis for choice of cases. **The third phase** with interventions and development work will partly run parallel with and partly build on the findings from phases 1-2, focusing on innovative learning designs, utilizing new technology to promote pedagogical use of digital tools in adult education.
Table 1. Methodological overview of SkillsREAL relative to the four main objectives

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<tr>
<th>Research objective reference</th>
<th>Research strategy and method</th>
<th>Data</th>
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<tbody>
<tr>
<td>1. Relations between skills and participation in working life</td>
<td>Phase 1. Statistical analysis; Conceptual-theoretical analysis (CTA).</td>
<td>PIAAC &amp; register data from Norway</td>
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<tr>
<td>2. The role of skills in participation in learning, education and training</td>
<td>Phase 1. Statistical comparative Nordic analysis ; CTA</td>
<td>PIAAC data from the Nordic countries</td>
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<tr>
<td>3. Organization and enactment of learning experiences to promote learning at work</td>
<td>Phase 2. Statistical analysis. Field studies1: In-depth case studies &amp; qualitative interviews.</td>
<td>PIAAC &amp; register data from Norway</td>
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**Timeframe and work packages**

The study will be carried out in the period 2014 – 2017, a total duration of 42 months.

The work is organised into six Work Packages as follows:

1. Project management and administration
2. Skills vs. Participation in labour market, current and past trajectories (PIAAC Norway)
3. Skills vs. Participation in (informal, non-formal) learning and education (PIAAC Nordic)
4. Quantitative (PIAAC) and qualitative study on learning in workplaces, selected public and private enterprises, in-depth case studies
5. Case studies: Pedagogical use of new technologies for optimizing skills-development, “good practice” - better alignment of and cooperation between educational provision and enterprise skills needs
6. Dissemination

**Expected outcomes**

The project shall establish new national, Nordic and international research networks by involving several partners, each with competence within relevant fields. The proposed project will contribute to new knowledge and competence building in the area of adult education.

A multi-method approach employing both quantitative and qualitative methods, combining quantitative data with workplace studies and studies of cooperation-based educational provisions, will potentially contribute to a development of new methodologies in the research field. The main point of departure for measuring skills is the PIAAC study, including skills needs/shortages and reserve, as well as learning attitudes (towards new skills acquisition). By supplementing PIACC data with past and future (until 2016) register data, the analysis will allow for the study of these complex relationships over time.
References


"PIAAC er den største internasjonale undersøkelsen om voksnes kompetanse noensinne. Nesten 170 000 voksne i 24 land har gjennomført en omfattende prøve i lesing, regning og problemløsning med IKT. PIAAC står for “Programme for the International Assessment of Adult Competencies”. Undersøkelsen kalles også “Survey of adult skills” – også kalt ”PISA for voksne”. Norge er ett av bare fire land som ligger over det internasjonale gjennomsnittet i alle ferdighetene. Landene som ligger over det internasjonale gjennomsnittet i alle ferdighetene er: Finland, Nederland, Sverige og Norge.

Voksne i Norge har gode ferdigheter

De norske resultatene i PIAAC er gode. Norge er nummer seks i leseferdigheter og tallforståelse og nummer fire i problemløsning og IKT. Japan, Finland og Nederland skiller seg positivt ut i lesing, mens Norge er i gruppen rett under. I tallforståelse er Japan klart best og Finland følger rett etter, men det er små forskjeller mellom Norge og de andre landene som følger rett etter på rangeringen.

- I OECDs rapport trekkes Norge fram som det landet hvor de med lavest ferdigheter i størst grad deltar i utdanning og opplæring. Over 50 prosent av denne gruppen har deltatt i utdanning og opplæring i løpet av det siste året. Det er dobbelt så høyt som gjennomsnittet. Programmet for basiskompetanse i arbeidslivet framheves i OECDs rapport. Dette er et viktig tiltak for å øke de grunnleggende ferdighetene, gjennom opplæring på arbeidsplassen som er tilpasset målgruppen, sier kunnskapsminister Kristin Halvorsen.

- Undersøkelsen viser at deltakelse i arbeidslivet bidrar til læring. Det er viktig at utdanningssystemet, sammen med arbeidsmarkedspolitikken og integreringspolitikken, bidrar til at befolkningen får den kompetansen som er nødvendig for å komme inn i det norske arbeidslivet, sier arbeidsminister Anniken Huitfeldt.

Læring i arbeidslivet

-Deltakelse i arbeidslivet opprettholder og utvikler ferdigheter gjennom voksenlivet, sier Halvorsen

Resultatene i PIAAC viser at norske menn er bedre enn kvinner i alle de tre ferdighetene. Forskjellen er minst i lesing og mindre for yngre enn for eldre. OECD påpeker at det er et paradoks at PIAAC viser en forskjell i menns favør, for PISA-undersøkelsen, som måler ferdigheter for 14-15-åringene, skårer jentene høyest. De mener dette viser at arbeidslivet er viktig for utjevning. Ser man på norske kvinner og menn som jobber heltid er det ingen forskjell i leseferdighet.

Variasjon mellom aldersgruppene


-En rekke forskningsmiljøer vil nå jobbe videre med tallene fra PIAAC for å gå dypere inn i materien, sier Halvorsen.”