

## Professional development of teachers in adult education - introduction

The PIAAC results show that many European countries struggle with low numeracy, quite often also in combination with low literacy. One in four European citizens is low numerate.

(Epale, 2015, Source: <https://ec.europa.eu/epale/en/blog/one-four-europeans-lack-numeracy-skills-enough-enough> Retrieved 28-04-2015)

In CENF it is assumed that most of them will be found on the levels X1 and X2, but it is also possible that adults on higher levels may have insufficient numeracy skills for work or even suffer from numeracy difficulties. These adults may need more specific professional education (in VET) or special support to overcome learning difficulties.

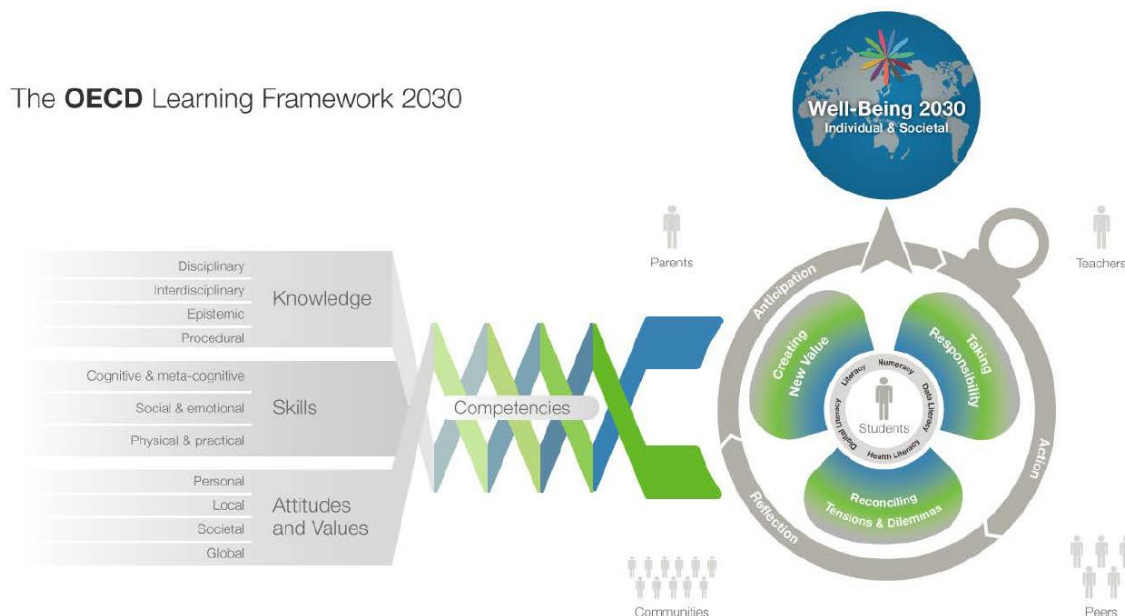
In CENF we focus on adults in levels X1 and X2, because PIAAC results show that the gap between low and higher numerate adults becomes bigger and bigger in recent years. In these levels we may encounter adults who are the most vulnerable in managing their personal and family lives, and in participating in society.

The problem, however, is that there is no common sense what adults should know to become numerate and how to teach numeracy to low-numerate adults. However, there are many studies about learning and teaching numeracy (refer to literature review ; ALM, *Teaching Adult Numeracy*; MiA project; Malcolm Tight, 1996. *Key concepts in Adult education and training*, )  
 The project Mathematics in Action (MiA-project; MvG 2002)

The OECD (2018) describes in “The Future of Education and Skills, *Education 2030*”, the need for being prepared for a complex and uncertain future. Such requires a “Need for a broad set of knowledge, skills, attitudes and values in action” (OECD, 2018).

Figure 1 shows what knowledge, skills, attitudes and values adults should have acquired for being a competent citizen.

Figure1 Figure 1. The OECD Learning Framework 2030: Work-in-progress



In 2012 the 21<sup>st</sup> century skills for the future were published (Binkley et al, 2012, in: Patrick Griffin • Barry McGaw • Esther Care Editors, 2012, *Assessment and Teaching of 21<sup>st</sup> Century Skills*, Springer , pg.....)

In total 12 competencies are described for becoming prepared for the future society. The four core competencies for the 21<sup>st</sup> century are critical thinking, communication, collaboration and creativity. Additional necessary competencies are information, media and technology literacy, flexibility, leadership, initiative and productivity. From these, flexibility may be most important to be able to adjust to new developments in society and work.

The model of the 21<sup>st</sup> century skills is being used in many countries all over the world.

## Lifelong learning

“Learning, like breathing, is something everyone does all the time ‘– you are never too old to learn –’ even if you don’t realize that you are doing it.” (Thomas, 1991, pg.3, in Tight, 1998, pg.21)

Lifelong learning is an essential component of our current and future society. The way in which such can be achieved can be through informal learning in daily life, non-formal education programs and formal education. Formal education mostly concerns learning specific topics for work (professional education, VET, higher education). Informal learning happens spontaneously, mostly within families, relatives, neighbors, sports and recreative communities, and goes all days on. Non-formal education can be organized in different ways, e.g. by local governments, foundations, local communities like churches, minority-communities. Such non-formal activities are often executed by local teachers and volunteers. [\(reference to results interviews CENF\)](#)

For example, in the Netherlands there is the *Foundation for reading and writing* (L&S). Professional teachers and many volunteers all through the country, are involved in teaching literacy. In addition, they may provide numeracy activities and courses when learners ask for that. Such situations appear all across Europe.

Despite all good efforts, it means that the quality of adult numeracy education cannot be guaranteed and evaluated. To help improve the quality of non-formal numeracy education, CENF offers a set of Professional Development Modules (PDMs) with criteria for learning and teaching numeracy.

## Adult Learning

Starting point of adult learning is that adults are free to learn. There is no compulsory education for adults. Adults want to learn if there is a need to learn. They learn spontaneously during lifetime in informal lived-in situations, such as family situations, at work or in a societal environment like shopping or sports. The context is always functional and mostly practical.

Adults learn by processing information in actual situations through interaction, communication, listening, seeing, watching, reading and doing. Tools can be leaflets, television, internet, technical instruments at work. And there is always a subject and a reason for learning. Learning is quite often a socio-cultural activity in a way that is determined through social and cultural influences. In such situations learning focuses mostly on shared cognition rather than individual cognition, for example

in workplace settings or in minority groups. (MiA handbook, 2007<sup>1</sup>)

Based on this, starting points for adult learning are:

- adults are free to learn
- want to learn when there is a need to learn
- learn from and teach each other in meaningful practical situations
- learning often happens through “learning by doing”
- however: learning in practical situations may lead to partial knowledge and skills

Analyzing the way in which adults process information, the following details can be observed (Van Groenestijn, 2002).

Adults:

- read about, listen to or look at information
- identify key points in the information
- reflect on *what is “new” to me?*
- communicate, discuss with others
- reflect on possible implications for personal life. *What does it mean to me?*
- reflect on possible implications for society or work.

The above should be starting points for adult learning in organized settings.

Based on that, learning should include the five core elements of the 21<sup>st</sup> century skills, namely: critical thinking, communication, collaboration, creativity and flexibility.

## Teaching adults

Starting from adult learning, teachers must have developed competencies for facilitating ways of learning which suits their learners best. The following main competences can be distinguished.

Teachers:

- are experts in numeracy themselves
- feel empathy for the learners
- have socio-political knowledge of the target groups they work with (minorities, women)
- create meaningful numeracy situations, preferable through practical tasks
- respect different ways of learning
- are able to listen to the learners’ ways of reasoning and problem solving
- encourage critical thinking, communication, collaboration, creativity and flexibility.
- prevent dependency from learners of the teachers by encouraging autonomous learning.

The best teachers don’t teach, but facilitate learning (Brookfield, 1986)<sup>2</sup>. They have their learners learn by asking questions, encourage communication, collaboration and critical thinking. They support the learners to be their own teachers.

Both, adult learners and their teachers, have their expectations during the numeracy sessions.

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<sup>1</sup> Van Groenestijn, M. & Lindenskov, L(eds). (2007). *Mathematics in Action, Commonalities across Differences; a handbook for teachers in adult education*. ALL Foundation, Netherlands  
Grundtvig-1 project: 116676 – CP – 1 – 2004 – 1 – DK – Grundtvig – G1 (2004-2007)

<sup>2</sup> Brookfield, Stephen D. (1986) *Understanding and Facilitating Adult Learning*. Buckingham, Open University Press

Expert teachers are able to finetune their way of teaching to the expectations of their adult learners, but, at the same time, they will also try to get their expectations to a higher level.

In this way a set of professional development modules (PDM) have been developed for teachers and volunteers in adult education, levels X1 and X2.