Managing situations

INTRODUCTION

Numeracy skills are crucial for managing various situations in daily life, work, and personal finance. The concept of managing situations as an important higher order goal of numeracy education is in contrast to a numeracy education that aims merely at mastering mathematical content.

The concept of managing situations from a numeracy perspective was already coined by Groenestijn in 2002 in her PhD thesis “A gateway to numeracy”. (Groenestijn, 2002)

In the definition below, the concept of managing a situation or solving a problem is broken down in meaningful and concrete details.

Likewise, the definition of numeracy developed for PIAAC Cycle 1 (PIAAC Numeracy Expert Group, 2009), was coupled with a more detailed definition of numerate behaviour and with further specification of what were called the facets of numerate behaviour. This pairing was

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seen as essential in order to not only describe numeracy but to also enable operationalisation of the construct of numeracy in an actual assessment, and in order to further broaden the understanding of key terms appearing in the definition itself. Consequently, the following definition of numerate behaviour, was adopted for PIAAC Cycle 1:

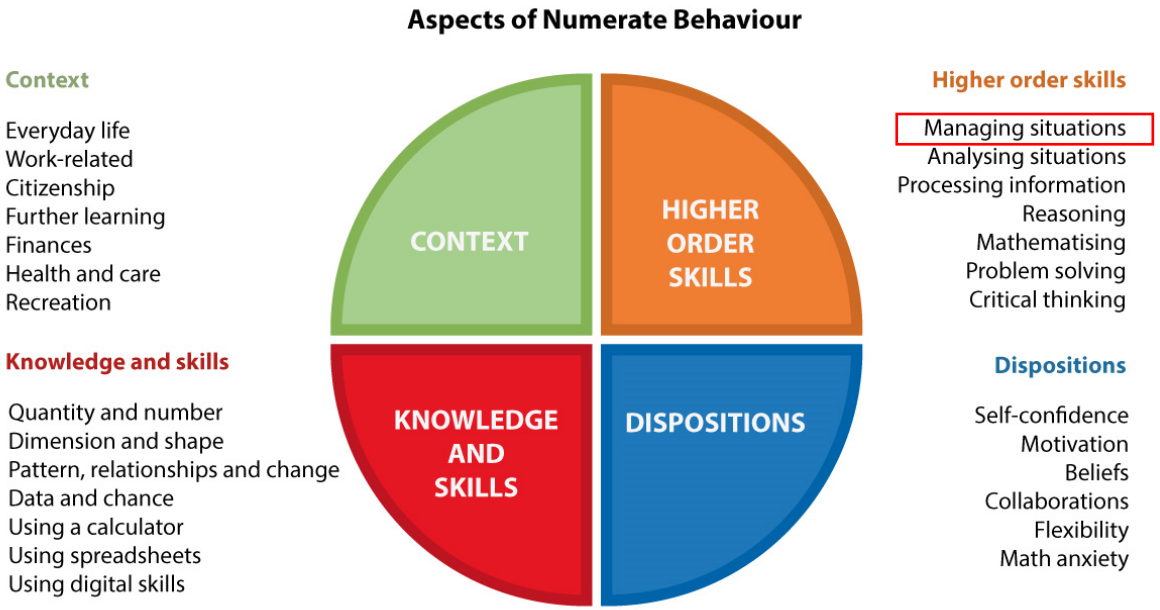
> "Numerate behaviour involves managing a situation or solving a problem in a real context, by responding to mathematical content/information/ideas represented in multiple ways."

In the 1st cycle PIAAC assessment framework each of the different facets embedded within the definition of numeracy and the elaboration of numerate behaviour were defined and described. This included the facets: contexts; responses; mathematical ideas/content; and representations.

KEY ISSUES

- It is about managing all kinds of situations that require mathematical insight, knowledge, and skills, as described in the PIAAC definition - competencies which enable individuals to take adequate actions in situations which need further elaboration.
- In managing situations, higher-order skills play an essential role.
- The quality of the mathematical action depends on how the person relates himself to his or her mathematical knowledge and skills (dispositions) and the extent to which he/she can oversee and control a situation (higher-order skills).

RELATION TO CENF



SUGGESTIONS FOR PD MEETINGS

1. *Examples from life*

Collect from the participants examples from their own life in which they use numeracy to manage a situation. Describe the situation and the (numerate) action taken.
Try to extract which specific skills are being used in these situations.
Refer this to the CENF and see if you can find match the skills to those mentioned in the CENF.

2. *PIAAC*

Find the pieces in The Assessment Frameworks for Cycle 2 of the Programme for the International Assessment of Adult Competencies, that refers to managing situation

Source: OECD. (2021). The Assessment Frameworks for Cycle 2 of the Programme for the International Assessment of Adult Competencies. OECD. https://doi.org/10.1787/4bc2342d-en

3. *Mr Müller ha a job interview , A fictional example*

Mr. Müller lives in Puchenau, in a small town near Linz. He must appear for the interview on Monday at 2 p.m. in Linz, Schillerstraße 6. He wants to go there by train.

It's not the first time he's gone to a job interview. However, it has happened several times that he caught an unfavourable train and was only very short or even too late on the spot. This time, and always in the future, he wants to avoid this.

The appointment was scheduled for the afternoon at 2 p.m. Since he often meets with friends on a free afternoon in Linz, he was familiar with the situation.

Normally he takes something small for lunch at home and then takes the next train. This is what he did on the day of the interview in Linz. But unfortunately the train didn't arrive until 2.15 pm, so he missed the appointment. At previous dates, he has always followed a similar approach.

Of course, he knew that he had to take a train that arrived before the job interview. He also knows full well that there are timetables in which you can look at that. He knows the yellow timetable poster at the station well. He has also been looking for the next train on this poster before, because he wanted to know how long he had to wait for him. But now with the electronic display, where you can immediately see when the next train is going in each direction, he hardly notices the timetable anymore.

When the trains go in which direction he actually does not know. But you never have to wait long. There is almost always a train in every direction. Only if you want to go to Aigen, you have to be careful. There is only one per hour, a few minutes after the hour.

What can help Mr Müller in an educational setting? Which activities can support Mr. Müller, so that he will no longer need help to come to a meeting in the future in time?

BACKGROUND INFORMATION

NCES

Managing situations as an important part of numeracy competences is used probably for the first time by ALL (Adult Literacy and Life skills survey). ALL focuses on numeracy not as a portfolio of passive skills but as an active pattern of behavior, such as managing situations, solving problems, and responding to quantitative information, which could be said to characterize numerate adults (Gal et al. 1999).

Quantitative Literacy: Why Numeracy Matters for Schools and Colleges

The definition was referred to by Steen and Madison in their influential publication from 2003. PIAAC. Later the concept found its way in the assessment frameworks for the first and second cycle of PIAAC.

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