

2019

Numeracy Policy MPC and Sundial



Introduction

In the Netherlands:

Numeracy skills have been decreasing in many countries worldwide. In the United Kingdom the percentage of adults with a sufficient high school grade for numeracy (grade C for GCSE) was reduced from 26% in 2003 to 22% in 2011 ([www. Nationalnumeracy.org.uk](http://www.Nationalnumeracy.org.uk)). In the Netherlands universities, colleges for applied sciences and businesses complained that students and young adults had a low competency level in numeracy.

This resulted in 2010 in a decision by the Dutch Ministry of OCW and Dutch parliament to establish a national numeracy test for all high school students. The aim was to attain more insight into the numeracy skills of exam candidates of secondary schools and to increase the general competency level in numeracy. The first official national numeracy test was administered in the Netherlands in academic year 2014-2015 and the results had an impact on either passing or failing the final exams. From the onset the national numeracy exam encountered a lot of criticism: according to critics the focus should be on teaching numeracy in a better way instead of testing it, the tests were too contextual and the items not well constructed.

The criticism did not diminish, despite the fact that the majority of Dutch students passed the exam with a sufficient grade. In 2015 the exam results were still recorded on the diplomas of VSBO and HAVO graduates, but did no longer influence the decision on passing or failing. The same decision was made for VWO students for academic year 2017-2018. In 2018 **the national numeracy test was repealed in the Netherlands**. Schools were to include numeracy within their curriculum and assess the numeracy skills within other subjects, such as math, and through school based tests. A temporary national numeracy test to bridge the gap between the abolition and the start of school based assessments was voted down by Dutch parliament in February 2019.

SVOBE schools:

Both Curacao and St. Maarten followed the developments within the Netherlands, but at a slower pace. To test what would be the effects of the numeracy exam on the pass and fail rates of the students, a pilot commenced. Twice per year TKL and HAVO/VWO students would sit the exam, administered by the Division of Exams. Apart from students at the VWO level, the pilot candidates scored very low.

By Ministerial Decree it was determined that the pilot was to be completed at the end of academic year 2018-2019 (MB OCJS/2015/1733). TKL, HAVO and VWO students were to pass the numeracy exam in order to pass their full exams from academic year 2019-2020 onwards.

To prepare students for the numeracy test and to increase the numeracy skills for the benefit of performance in other subjects as well, the SVOBE schools started to offer specific numeracy classes for 1 hr. per week in forms 1 and 2, and in some departments also in the pre-exam years. Initially screening was done for only the HAVO/VWO first formers, but later on all first formers participated in the form 1 screening. Dissatisfied with the level of arithmetic of group 8 students entering the schools, math training was offered to group 8 teachers of all primary schools.

There are differences in how departments make the subject valuable to students:

- TKL: numeracy counts as an SO within math
- HAVO/VWO lower forms: the numeracy grade is recorded as a separate grade on the report card and is included in the decision on promotion or repetition
- HAVO/VWO upper forms: the grade is still recorded on the report card, but is not included for promotion/repetition, since it also does not determine pass/fail in the final exams. Students are informed that tertiary institutions see the grade on the grade list and a low grade can impact their decision to accept the student
- Sundial and MPC PBL/PKL: just recorded the grade on report card, but it doesn't count.

Based on the decision that was taken in the Netherlands, the Minister of ECYS informed us on April 26, 2019 that the mandatory numeracy exam is repealed (MB OCJS 2019/550).

Experience with numeracy education and the numeracy exam pilot

The results of students in year 1&2 vary: Sundial mentioned very reasonable results, PBL-PKL MPC was less pleased. The grades on the pilot numeracy test, executed in the TKL and HAVO are low, whereas VWO 5 scores are good.

Language issues attribute to the low results for a great part, but also lack of motivation by the students. The main idea seems to be "it doesn't count, so it doesn't matter". Students who master certain concepts get bored when those are dealt with in class or they think they already know everything well, whereas they in fact don't.

Less contextual numeracy tests are considered to be more fair/effective for all students.

Numeracy Policy 2019 onwards:

We base our policy on the following points of departure:

1. Numeracy skills are important.

We acknowledge that the widespread use of calculators on mobile phones may seem to decrease the need to be very proficient in mental arithmetic, but in reality there are still many situations in our private and our work life that warrant a basic proficiency in numeracy. Furthermore, a basic understanding of how to calculate and what steps must be taken is very important.

2. Language should not stand in the way of learning arithmetic and being assessed on it

We agree that students should understand why and when certain calculations are needed, which can be done through Math Word problems (redactiesommen). However, tests should not be set up in such a way that the validity of testing numeracy skills is hampered, in other words numeracy tests should foremost test numeracy skills and not language skills.

Numeracy tests in PBL and PKL are administered in English, with attention to the punctuation differences between the English and Dutch number display.

The HAVO/VWO department observed that students score well for the “kale sommen”, but poorly for the contextual sums even if they are allowed to use the calculator. The department wants to research this academic year if this is mainly due to language issues, or if students simply do not grasp sufficiently which formulas and approaches have to be applied in given situations. Students in form 3 will do an English version (translated by an English language teacher) and a similar Dutch version later on in the year. If necessary a version with simplified Dutch will be administered as well. The outcome of this research will be shared with all departments and –if necessary- the policy and approach of numeracy will be adjusted.

3. Numeracy will be an important subject in the lower forms: forms 1 and 2 for PBL,PKL,TKL and form 3 for HAVO (and VWO)

We hope that the level of proficiency in arithmetic on primary schools will increase in the coming years, but we acknowledge that we have little influence on that. We therefore continue to program numeracy for 1 period per week in the lower forms of secondary education. In this way we want to bridge the gap between the students’ entry level and a required basic proficiency.

4. We endeavour to teach students based on their specific needs

When students enter our schools in form 1 they will be screened by the numeracy teachers through an 1F level test (“instaptoets”). The care department will collaborate in this process. The results of the screening can be used by the teachers to identify which concepts are considered difficult. Students who struggle may receive extra work to be done at home and parents will be contacted to provide assistance. We strive to identify as soon as possible, which students may be hampered by dyscalculi. If extra work (as identified above) has not helped the students sufficiently in a period of 3 to 6 months, teachers will refer them to the care department to be screened for dyscalculi. The care department will formulate our SVOBE approach in a separate protocol on Dyscalculi.

5. Numeracy will only be offered to students with backlogs after form 2 VSBO or form 3 HAVO

We test all students at the end of form 2. If they have attained the required end level for their type of education, they do not need to continue with numeracy classes:

- 2F for PBL/PKL/ TKL /HAVO
- 3F for students who will go to VWO + some HAVO students who are expected to be able to achieve this level.

The students who have achieved the abovementioned level with **a grade 6** will receive a school certificate 2F or 3F. HAVO students with a 2F certificate, work on attaining 3F level in form 3. They receive the final 3F test at the end of form 3.

We believe that this will increase the motivation of the students to attain the required level and will result in small groups and more personalized programs for the remaining students.

The numeracy lessons/support after form 2 PSVE and form 3 Havo (VWO) will be done by teachers. Depending on student numbers, students of different programs may be grouped together. The care department will also research possibilities for a digital remediation program,

which could also be used for students in form 1 and 2 who need extra help. Whether or not this can be offered in the future depends on financial means and the availability of a useful remediation program.

6. We will facilitate a proper streaming for TKL graduates, who wish to continue with the HAVO program.

Graduates from TKL who want to continue with HAVO:

- work towards 3F when they stream into HAVO3
- if they stream into HAVO 4: depending on group sizes and educational needs, the students will follow numeracy classes with HAVO form 3 or practice independently (e.g. with software or certain websites, and –if possible- a laptop/device) with diagnostic testing in between.

7. Throughout forms 1 and 2 (and form 3 for HAVO) term tests will be given. Based on experience and needs of the target group it will vary per department how the tests will count: HAVO/VWO:

- It will be a separate subject grade on the reportcard and will be taken into account for promotion and repetition.
- Students need a 6.0 for level 3F, if they want to choose the subject bedrijfseconomie/ business economy

TKL:

- The test(s) will count as one SO within the Math grade

PBL-PKL:

- The test(s) will count as one SO within the Math grade

Students who have not attained the required 2F or 3F at the end of their study, will receive a certificate with reference to the level they do have reached (minimally 1F).

8. Numeracy tests are developed by the numeracy teachers, with possible consultation with the math teachers. The program of the lessons and number of tests are determined by the teachers.

Process of consultation and formalization:

This numeracy policy has been discussed in four meetings with several numeracy teachers, the care department and department heads/coordinators of all departments in the months February-May 2019. It has formally been established as a policy by the management team of SVOBE Schools on September 17 2019.

Evaluation of the policy will be done after two years in 2021, but –if needed and after consultation with all parties- adaptations will be made before that.