Working with the Digital Assessment Environment

FaSMEd Meeting 1

Programme

FaSMEd

- What is FaSMEd?
- What is assessment?
- The Digital Assessment Environment (DAE)
- Assessment in the DAE
- Get to work

What is FaSMEd?

FaSMEd

1. *Formative assessment in Science and Mathematics Education* (FaSMEd)

2. An international research project

3. We focus on formative assessment in mathematics education, using a for this purpose designed digital environment

What is assessment?

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- First: why do we assess students?

  ……..

  ……..

  ……..

- Summative
- Formative

DAE (Digital Assessment Environment)

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- Students complete the assessments on computer
- Their work is saved
- Not only answers, but also the use of auxiliary tools is visible
- Overviews of whole group
- Approach of an individual student

Various auxiliary tools

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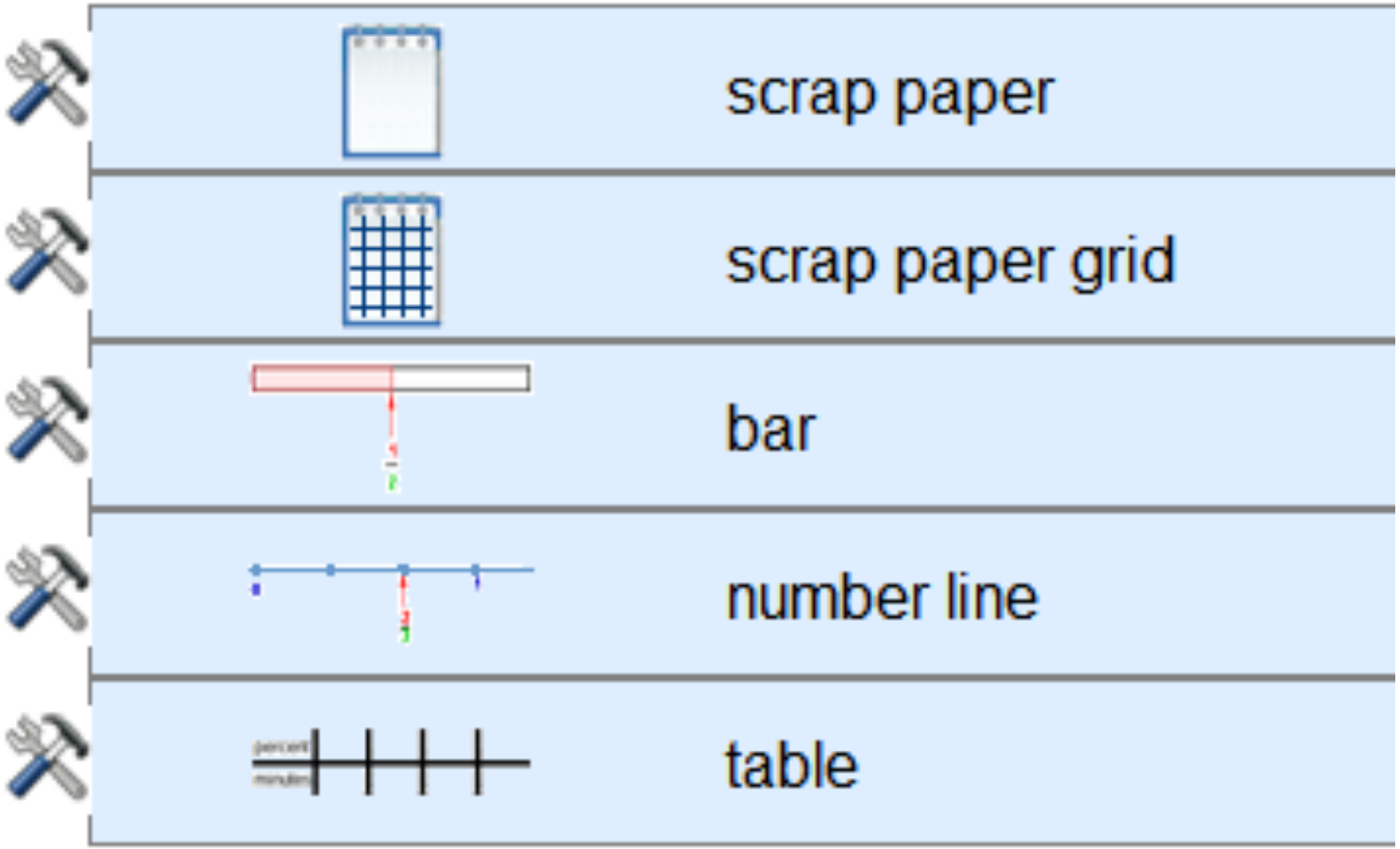

Overview of the whole group

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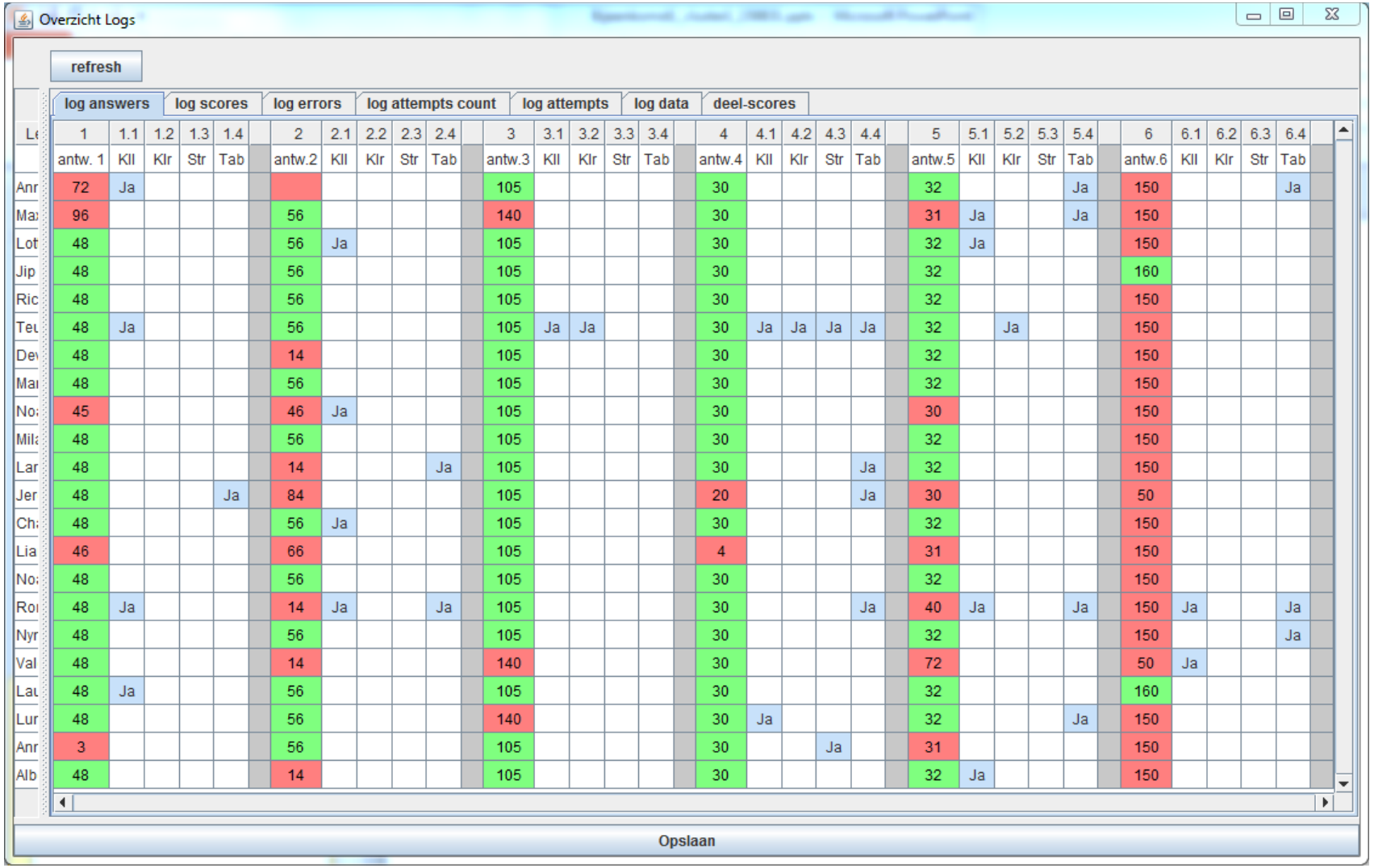

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	antw. 1	Kll	Klr	Str	Tab	antw.2	Kll	Klr	Str	Tab	antw.3	Kll	Klr	Str	Tab	antw.4	Kll	Klr	Str	Tab	antw.5	Kll	Klr	Str	Tab	antw.6	Kll	Klr	Str	Tab
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Individual student

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Problem 4

Caren plays a computer game. Her score is 24 out of 80 points.

What percent is her score?

Answer: 19.2 % ✗

scrap paper

scrap paper grid

bar

Assessment in the DAE

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- Percents
- Fractions
- The metric system
- Graphs

For each domain, two tests:
Test A and Test B
Every test has 6 or 7 problems

Assessment problems

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- Related to Dutch reference levels 1 F and 1 S
- Test B problems slightly more difficult than test A problems
- Test A for all students
- Test B to be used at your own discretion
- Students can use auxiliary tools with every problem

Background information

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- Overview of core competencies and core problems for percents and fractions
- Brief didactical information about percents and fractions
- Explanation how to use the DAE

Core competencies percents

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Percents		
Core competency	Test A	Test B
Calculating a percent of a number	Problem 1 When the battery is fully charged, it lasts for 120 hours. Now it is just 40% full. How many hours will it last?..... hours	Problem 1 When the battery is fully charged, it lasts for 120 hours. Now it is just 75% full. How many hours will it last?..... hours
Calculating the result of a percentual decrease	Problem 2 A cell phone costs 70 dollar. You get a discount of 20%. What do you have to pay now?..... euros	Problem 2 A shirt costs 40 euros. You get a 15% discount. How much will you have to pay?..... euros
Calculating the result of a percentual increase	Problem 3 A chocolate bar weighs 70 gram. You get 50% extra. How much does the bar weigh now? ..... grams	Problem 3 A package contains 80 biscuits. You get 30% extra. How many biscuits are in the package now? ..... biscuits
Describing part of a whole with a percent	Problem 4 Caren plays a computer game. Her score is 24 out of 80 points. What percent is her score?..... %	Problem 4 There are 160 students in grade 5 and 6. Of these students 144 have their own computers. What percent is that? ..... %
Calculating a number when a percent of that number is known	Problem 5 In 24 minutes, the battery is charged for 75%. What will be the total charging time?..... minutes	Problem 5 In 32 minutes, the battery is charged for 80%. What will be the total charging time?..... minutes
Calculating the original number of a collection after a known percentual increase or decrease has taken place	Problem 6 This year, a school has 200 students. That is 25% more than last year. How many students were there last year?..... students	Problem 6 This year, 220 students participated in the evening march. That is 10% more than last year. How many students participated last year? ..... students

Core competencies fractions

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Fractions		
Core competency	Test A	Test B
Comparing context-based fractions with different denominators	Problem 1 Click the largest part: $\frac{2}{3}$ part of a bar, or $\frac{5}{6}$ part of a bar How much is the difference? .... part of a bar	Problem 1 Click the largest part: $\frac{2}{3}$ part of a bar, or $\frac{2}{5}$ part of a bar How much is the difference? .... part of a bar
Adding context-based fractions with different denominators	Problem 2 $\frac{1}{8}$ of a bar and $\frac{3}{4}$ of a bar make together .... of a bar	Problem 2 $\frac{1}{6}$ of a bar and $\frac{3}{4}$ of a bar make together .... of a bar
Adding bare fractions and mixed fractions with different denominators	Problem 3 How much is $8\frac{1}{4}+\frac{2}{5}$?	Problem 3 How much is $8\frac{3}{4}+\frac{2}{5}$? ....
Subtracting bare fractions and mixed fractions with different denominators	Problem 4 How much is $6\frac{3}{4}-\frac{1}{3}$?	Problem 4 How much is $6\frac{1}{3}-\frac{3}{4}$? ....
Solving context-based division problems with fractions	Problem 5 How much is half of $1\frac{3}{4}$ bar? .... bar	Problem 5 Sharing $1\frac{1}{5}$ bar among three persons How much does each get? .... bar
Solving bare multiplication problems with fractions	Problem 6 How much is $5 \times \frac{2}{3}$?	Problem 6 How much is $2\frac{1}{2} \times \frac{1}{2}$? ....

- Logged into account?
- Class created?
- Students added?

Problems/questions?

- The DAE contains introduction activities for the students to have them get acquainted with the digital environment and auxiliary tools
- Now do the introduction activities for percents and fractions by yourself

- Have your students complete the A test of percents and fractions (and if desired, the B test) before the second meeting
- Test completed, then what?
  Answer questions using the test output:
  - About the class
  - About individual students
  - About the mathematics textbook
- (see suggestions on p. 9 of Teacher Guide Percents)

Important dates

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Week number	Date	**1st FaSMEd meeting**
…	…	Completing Test A Percents
…	…	Completing Test A Fractions
…	…	**2nd FaSMEd meeting**
…	…	Completing Test A Metric system
…	…	Completing Test A Graphs
…	…	**3rd FaSMEd meeting**

Finally

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- Questions/problems progress?
  Send an e-mail to

<your e-mail address>

- Questions/problems DAE?
  Send an e-mail to

M.J.Abels@uu.nl (Mieke Abels)

Colophon

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