



University of Antwerp
| Faculty of Social Sciences

Formative evaluation in Mathematics

An exploration of teachers' attitudes, self-efficacy and experiences

The logo for 'formas', featuring the word 'formas' in a bold, lowercase sans-serif font. The letter 'o' is replaced by a stylized orange magnifying glass icon.

formas

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Study goals & research questions

- **qualitative approach**
- **more and deeper insight in**
 - prior knowledge
 - attitudes
 - self-efficacy
 - experiences regarding the workshops
 - necessary support measures



Methods

- **semi-structured interviews**
- **convenience sampling**
- **6 participants**
 - 5 schools
 - 5 women & 1 man
 - teaching experience: 5 – 30 years
- **September – October 2020**
- **online**

Results & conclusions

Results

Prior knowledge

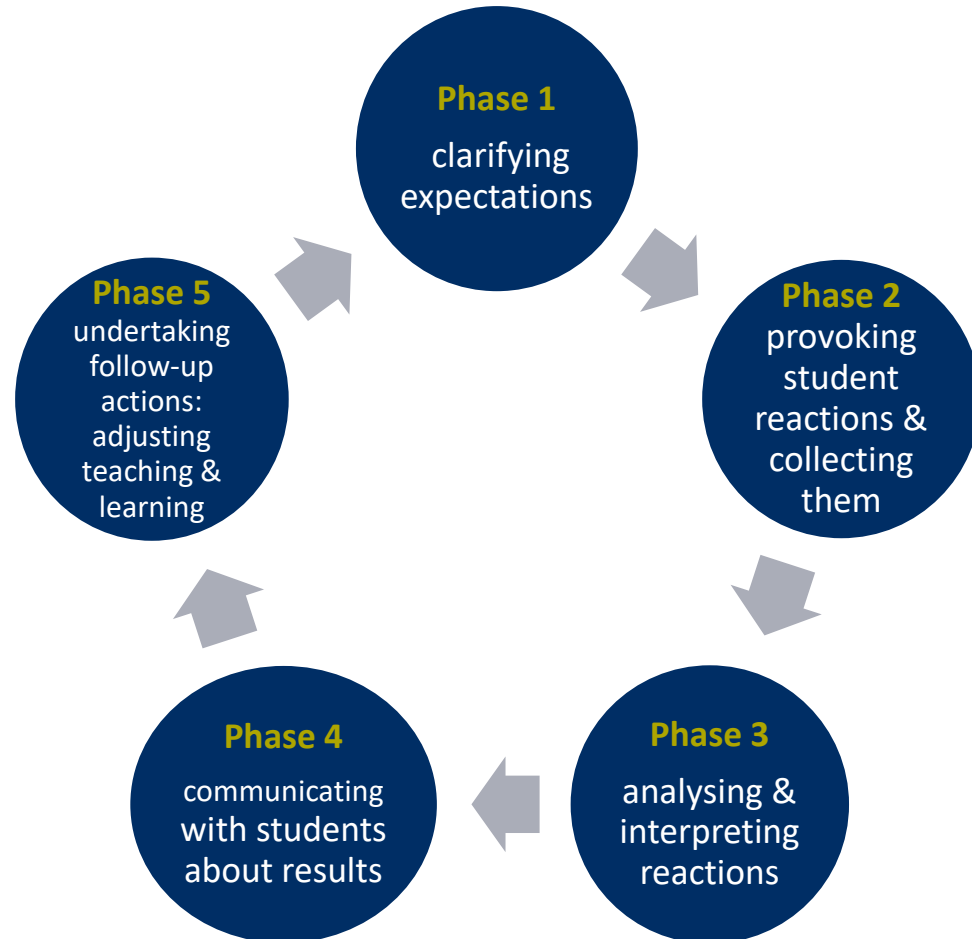
“I did not have that much prior knowledge on formative evaluation. But I heard some things in the workshops that I thought: Oh, I do this and I do that. So before the workshops not really, but by hearing all that it seemed that I knew more than I originally thought and I applied it more than I thought in beforehand.” (R1)

Conclusion 1

- **educating teachers on formative evaluation (FE) = paramount**
- **probably many teachers that unconsciously apply FE**
 - > easily persuaded to use FE (not too much effort)

Results

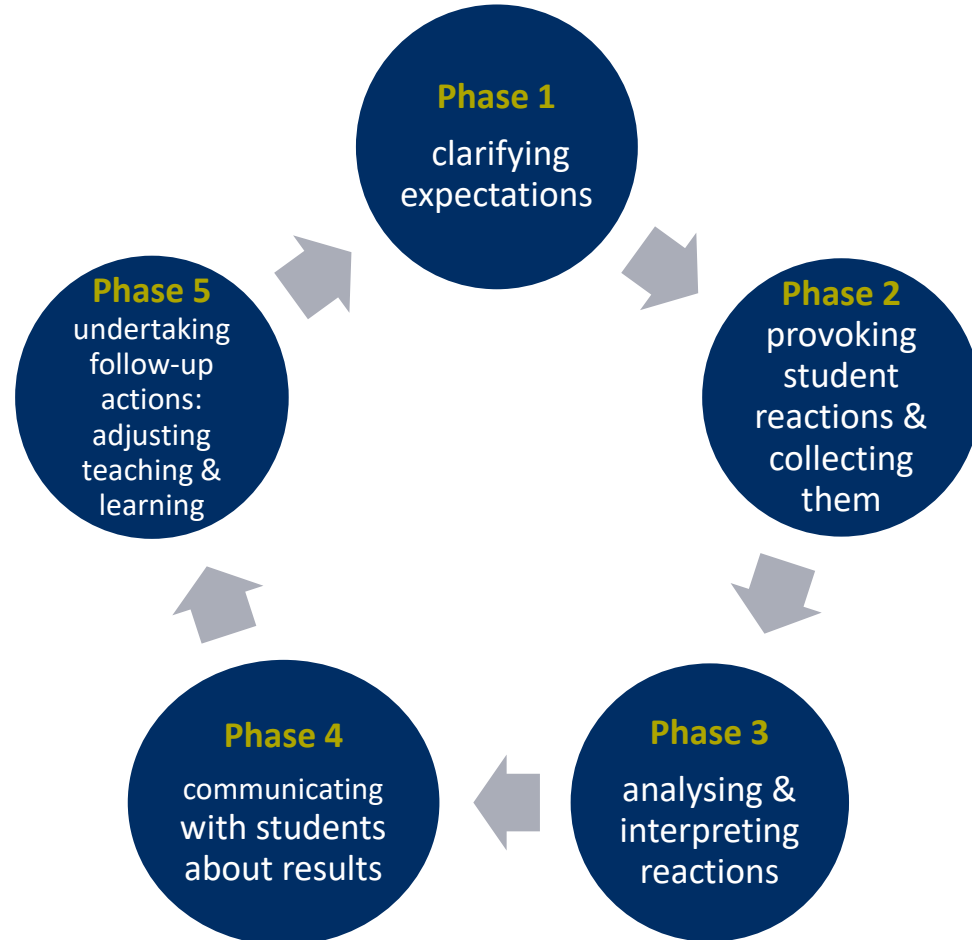
Workshops



- **cycle:** more structure & clarity
- **guidelines** to come up with **actions:**
 - not from cycle itself
 - BUT: fellow teachers

Results

Workshops

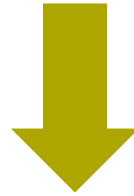


- **choice of specific actions depends on:**
 - teaching style
 - class group

“Yes, and it can differ across class groups. I have class groups, that if they get erase boards, they only write silly things on them and then pens will fly through the air. And then you do this in another way with them.” (R4)

Conclusion 2

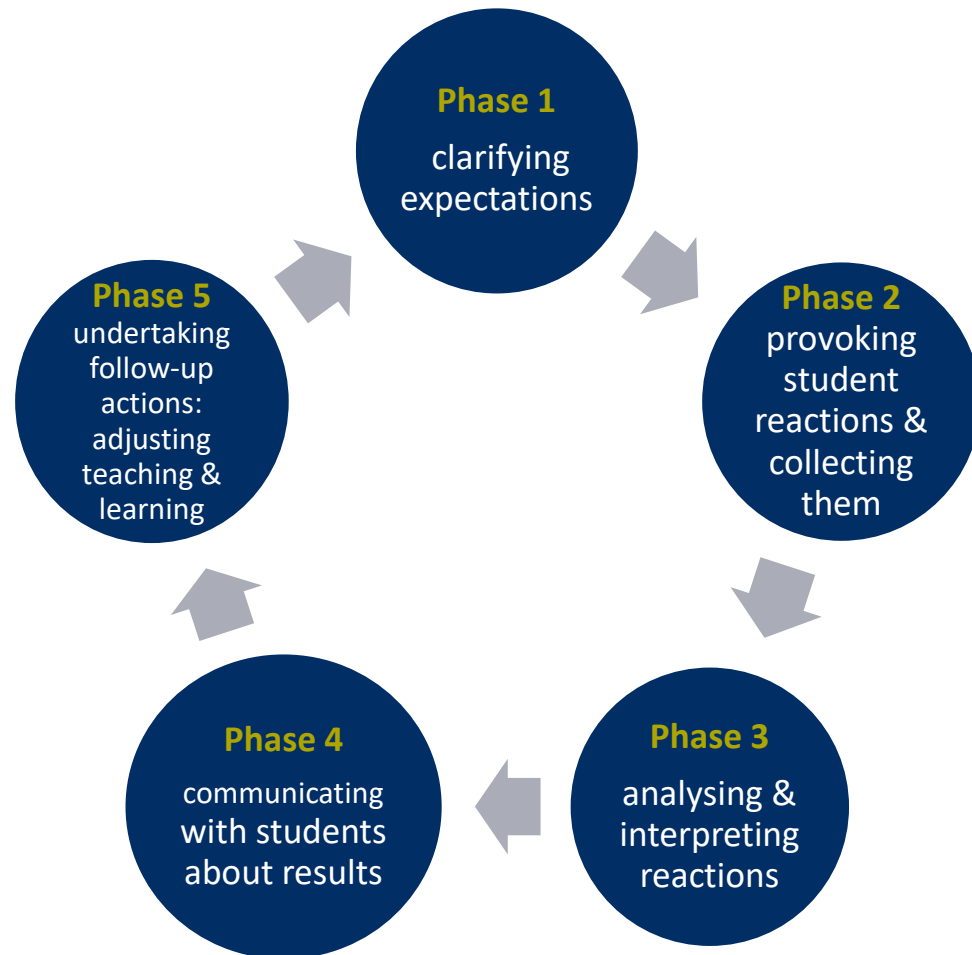
- **personal teaching style & type of class group: affect choice of activities**



no 'one size that fits all'

Results

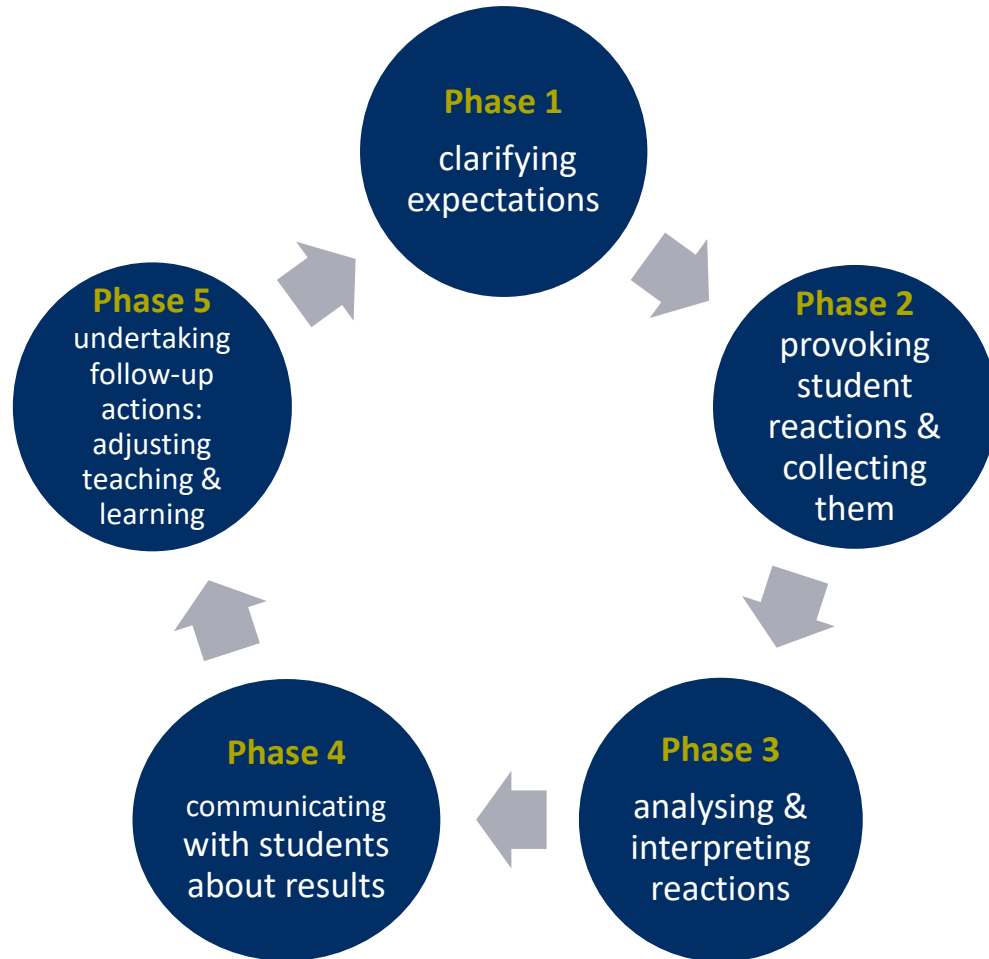
Action plan



- **most teachers:** actions for all 5 phases
- **phase 1:**
 - writing goals on test paper
 - not adding criteria (time consuming)
 - not seeing added value in clarifying expectations

Results

Action plan



- **phase 2 & 3:** digital & non-digital tools
 - insight in what students understand & are capable of
 - easier to guide students & implement remedial actions
- **phase 4:**
 - hard to communicate with students individually
 - not found an effective way yet

Results

Attitude: before FORMAS trajectory

- **4 out of 6 participants:**
 - added value of formative evaluation (FE)
 - in favour of using it in Mathematics
 - important to find out what pupils have learned

Results

Attitude: after FORMAS trajectory

- **all 6 participants:**
 - in favour of FE
 - development of students
 - paying more attention to subjects students do not master yet
 - different views on implementation of FE:
 - FE & summative evaluation should co-exist.
 - Summative evaluation: cut all together
 - limits in time allocation:
 - time spent on preparing good exercises, NOT on administration

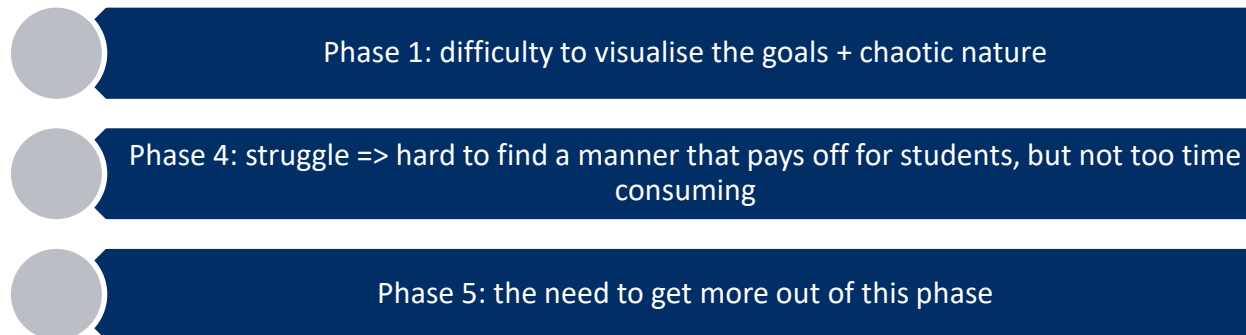
Conclusion 3

- **attitude & view on FE = very personal**
- **different views in teaching group and/or school -> compromise**

Results

Self-efficacy

- **prior to FORMAS trajectory:** most teachers -> did not feel very competent
- **after the workshops:**
 - all teachers: fairly high overall confidence
 - more competent in FE, BUT aware they have more to learn
 - necessary skills to further develop FE
 - lower confidence in some phases:



Conclusion 4

- **Self-efficacy** ↗ thanks to the workshops.
- **educating teachers through workshops -> highly beneficial to develop higher self-efficacy**
- **actions in phase 2 & 3: most reported**
- **phase 4: further professional development**

Results

Support measures

organisational support

- possibility to intern with colleagues
- lesson blocks (of 2 teaching periods)
- parallel teaching hours with colleagues to co-teach to get smaller groups
- freeing up time to collaborate
- report card with colours

professional development

- getting help from other schools / organisations that have successfully applied FE
- educating school management on FE
- training or course on activities that have proved to be effective in FE

material support

- digital support
- larger classrooms

Conclusion 5

- **School management: increase support to:**
 - facilitate &
 - further develop effective FE in Mathematics



**THANK
YOU
FOR
YOUR
ATTENTION**