FACTORS INFLUENCING THE USE OF FORMATIVE ASSESSMENT IN THE CLASSROOM

SESSION: FUTURE TRENDS IN EDUCATIONAL ASSESSMENT IN THE NETHERLANDS

CHRISTEL H.D. WOLTERINCK
WILMA B. KIPPERS
KIM SCHILDKAMP
CINDY L. POORTMAN

AERA, WASHINGTON, APRIL 9TH, 2016
INTRODUCTION FORMATIVE ASSESSMENT

- Formative assessment\(^1,2,3,6\)
  - teachers and students derive information from *assessments*
  - use this as *feedback*
  - to improve the quality of *teachers’ instruction*
  - to improve the quality of *students’ learning*

→ higher quality of education
→ better learning outcomes for students
FORMATIVE ASSESSMENT IS AN UMBRELLA TERM

attaining results and targets

focus on the quality of the learning process

deep insight in learning process and learning outcomes

Figure 1: Three approaches towards formative assessment

Data Based Decision Making (DBDM)
Assessment for Learning (AfL)
Diagnostic Testing (DT)
FOCUS ON TWO APPROACHES: DBDM AND AFL

<table>
<thead>
<tr>
<th>DBDM</th>
<th>AfL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data-based decision making</td>
<td>Assessment for learning</td>
</tr>
<tr>
<td>- systematically</td>
<td>- everyday practice</td>
</tr>
<tr>
<td>- analyzing</td>
<td>- students, teacher and peers</td>
</tr>
<tr>
<td>- existing data sources</td>
<td>- improve learning process</td>
</tr>
<tr>
<td>- applying outcomes</td>
<td>- evaluate, reflect on learning</td>
</tr>
<tr>
<td>- innovate teaching, curricula and school performance</td>
<td>- continuous feedback</td>
</tr>
<tr>
<td>- implementing</td>
<td></td>
</tr>
</tbody>
</table>
FACTORS INFLUENCING FORMATIVE ASSESSMENT

Teacher -> Assessment

Formative assessment in classroom
- DBDM
- AfL

Assessment -> School

School -> Student

Figure 2: Theoretical framework on factors influencing formative assessment in the classroom
RESEARCH AIM AND QUESTIONS

Aim: Exploring current use of formative assessment by teachers and students in secondary schools

Questions:
1. To what extent is formative assessment (DBDM and AfL) used in classrooms?
   I. according to the teacher?
   II. according to the student?
2. Which prerequisites do teachers most frequently describe as important for their formative assessment use?
3. To what extent do teacher characteristics influence the use of formative assessment (DBDM and AfL) in classrooms?
METHOD

Quantitative research methodology
- 15 Dutch schools
- 434 teachers, 515 students
- Reliable and valid survey for teachers and students
- Descriptive and regression analyses

Explorative qualitative research methodology
- 4 high-performing Dutch schools
- Individual in-depth interviews, checklists
- Descriptive analyses
RESULTS
RQ1: STRATEGIES USED ACCORDING TO TEACHERS

Figure 3: Strategies of formative assessment used according to teachers

(almost)
never <10%
sporadic 25%
emerging 50%
established 75%
embedded >90%

- peer/self assessment
- feedback
- data use
- eliciting evidence
- learning intentions
RESULTS

RQ1: STRATEGIES USED ACCORDING TO STUDENTS

Figure 4: Strategies of formative assessment used according to teachers and students

- **Eliciting evidence**
  - Student: 25%
  - Teacher: 50%

- **Learning intentions**
  - Student: 75%
  - Teacher: 75%

- **Data use**
  - Student: 25%
  - Teacher: 50%

- **Feedback**
  - Student: 25%
  - Teacher: 50%

- **Peer & Self assessment**
  - Student: 25%
  - Teacher: 50%

“**It was confronting to complete the questionnaire, but I can use it to improve myself.**”
RESULTS

RQ2: PREREQUISITES

- Five most important prerequisites:
  1. Positive attitude of teachers towards formative assessment
  2. Specific feedback provided by assessments
  3. Alignment between assessments and curriculum
  4. School leaders facilitating formative assessment use
  5. Teachers’ knowledge and skills to adjust instruction

‘You have to pay attention to your students, know what is going on and be willing.’

‘Students should be aware of the learning objectives.’

‘The forty-fifty minute schedule should be changed in a seventy- or eighty-minute schedule.’
## RESULTS

### RQ3: TEACHER CHARACTERISTICS

<table>
<thead>
<tr>
<th>Predictor</th>
<th>β</th>
<th>p</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Peer/self assessment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>attitude</td>
<td>-.008</td>
<td>.890</td>
<td>.243</td>
</tr>
<tr>
<td>knowledge/skills</td>
<td>.496</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>2. Feedback</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>attitude</td>
<td>.117</td>
<td>.044</td>
<td>.290</td>
</tr>
<tr>
<td>knowledge/skills</td>
<td>.494</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>3. Data use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>attitude</td>
<td>.077</td>
<td>.201</td>
<td>.193</td>
</tr>
<tr>
<td>knowledge/skills</td>
<td>.411</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>4. Learning intentions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>attitude</td>
<td>.026</td>
<td>.670</td>
<td>.175</td>
</tr>
<tr>
<td>knowledge/skills</td>
<td>.409</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>5. Eliciting information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>attitude</td>
<td>.048</td>
<td>.442</td>
<td>.122</td>
</tr>
<tr>
<td>knowledge/skills</td>
<td>.333</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Influence **attitude and knowledge/skills** on use of formative assessment in classroom
CONCLUSIONS AND DISCUSSION

RQ1: STRATEGIES USED ACCORDING TO TEACHERS AND STUDENTS

- Most strategies not used often: between 25-50% of lessons
- Students indicate even less use
- Little use of peer- and self assessment
- Formative assessment is not integrated with daily classroom activities
CONCLUSIONS AND DISCUSSION
RQ2 AND RQ3: PREREQUISITES AND TEACHER CHARACTERISTICS

- We need to pay attention to prerequisites, such as:
  - Stimulate a positive attitude
  - Specific feedback assessment
  - Alignment assessment and curriculum
  - Support school leader
  - Teacher knowledge and skills

- Attitude is a poor predictor for the use of formative assessment in classroom. This is probably due to an average positive attitude in our sample and thus too little variance

- **Professional development** in formative assessment urgently needed
It is assessment which helps us distinguish between teaching and learning

- Any questions?
- For further questions please contact c.h.d.wolterinck@utwente.nl / w.b.kippers@utwente.nl
LITERATURE


