**Introduction**

‘Information Literacy is the ability to identify what information is needed, understand how the information is organized, identify the best sources of information for a given need, locate those sources, evaluate the sources critically, and share that information. It is the knowledge of commonly used research techniques’

[http://www.webs.uidaho.edu/info_literacy/](http://www.webs.uidaho.edu/info_literacy/)

**Confusion of levels, learning and assessment**

**Norm- or age-based learning:**
- whole-group learning with individual or small group adapt.
- mean-based tasks and specific (ad-hoc) adaptations
- tasks or activities may not fit individual competences

**Criterion-based learning:**
- small group or individualised learning in larger settings
- series of tasks according to psychometric criteria
- curriculum: absolute evaluation, appropriate continuity in progress at own levels of competence
- kernel of optimal education
Multilevel theory:

Educational contextual dimensions:
* Differentiation of learning materials and procedures
* Integration by and use of ICT support (individual, small group, class, school, group of schools/district, national)
* Strategies to improve development and learning (at and between different levels)

Combination with four learning aspects:
Diagnostic, instructional, managerial, systemic (at and between different levels)

Scheme of dimensions and learning aspects:
Guidelines to realise optimal education

Hypothesis

Compared with their learning in traditional education, in optimal education – learning conditions both low and high ability pupils will improve their social, emotional and cognitive information processes and their corresponding learning processes and effects.

Methods: Three examples of research

Development
• Development of prototype software
• Collaborative pilots in preschool / primary school

Experimental
• Two experimental longitudinal intervention projects

National monitoring
• ICT-based monitoring of school safety prim./second. ed.

Development research

Pedagogical-Didactic Kernel Structure
Competence domains: sets of curriculum-relevant concepts indicated by norm-based tests:
- language
- general - cognitive
- social - emotional
- arithmetic / mathematics
- physical - medical
- general - psychological
- motor
Completed with criterion-based learning materials / evaluation supplied by teachers and schools
Implementation

Pilots in preschool and primary education

- collaboration with pre- / primary school teachers
- screening of entry characteristics of four-year olds
- experiences in practice:
  - Information exchange and collaboration parents - teachers
  - multi-perspective communication pupil’s competence levels
  - introduction of other levels of play and learning materials
  - further specific educational support in small groups

T. Mooij & E. Smeets ECER 2011

Experimental research

1. Experiment cognitively gifted pupils in special schools
   - design 10 schools, specific curricular support
   - 3 multilevel assessments; experim. – control schools
   - complexity different organisational structures / supervision

2. Experiment cognitively excellent pupils in regular schools
   - design 41 schools, highly interested
   - 3 multilevel assessments; time-varying interv. all schools

T. Mooij & E. Smeets ECER 2011

National monitor school safety

- Two-yearly internet-based monitor (Ministry Educ.)
- All types of secondary education (reg. & special) / PE
- Digital pilot questionnaires
- Organisation in collaboration with school locations
- Reliability and homogeneity (scale construction)
- Representativeness (type educ., urbanisation)
- Digital feedback: national and per school location

Feedback to all participating schools

- Internet: schools can conduct on-line queries and contract/download tables with own results (one-, two-, or threedimensional)
- Internet: norm-based national benchmarks and comparisons with results of own school
- Management summary: pdf per e-mail with norm-based results, comparison with school results, and within-school longitudinal results

T. Mooij & E. Smeets ECER 2011
Feelings of safety of pupils (2010: national vs school)

<table>
<thead>
<tr>
<th>Behaviour rules within school</th>
<th>National</th>
<th>School</th>
<th>Differ.</th>
<th>Eta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score from 0 - 100; higher score is more favourable</td>
<td>Behaviour rules are present in school</td>
<td>96.3</td>
<td>97.9</td>
<td>1.6</td>
</tr>
<tr>
<td>--- in the information map about school</td>
<td>85.3</td>
<td>91.8</td>
<td>6.5</td>
<td></td>
</tr>
<tr>
<td>--- in the corridors</td>
<td>46.7</td>
<td>25.7</td>
<td>-21.0</td>
<td>0.22</td>
</tr>
<tr>
<td>--- in the classrooms</td>
<td>53.7</td>
<td>43.8</td>
<td>-10.0</td>
<td></td>
</tr>
<tr>
<td>--- at the Internet</td>
<td>67.5</td>
<td>33.0</td>
<td>-34.5</td>
<td>0.34</td>
</tr>
</tbody>
</table>

Persons of school contribute to the formulation of the behaviour rules

Teachers and pupils collaborate in formulating and checking pro-social behaviour rules

60.1 | 63.8 | 3.7 |

T. Mooij & E. Smeets ECER 2011

Feelings of safety of pupils (longitudinal within-school)

<table>
<thead>
<tr>
<th>Behaviour rules within school</th>
<th>'05-'06</th>
<th>'10-'11</th>
<th>Differ.</th>
<th>Eta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score from 0 - 100; higher score is more favourable</td>
<td>Behaviour rules are present in school</td>
<td>94.1</td>
<td>97.9</td>
<td>3.8</td>
</tr>
<tr>
<td>--- in the information map about school</td>
<td>89.6</td>
<td>91.8</td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td>--- in the corridors</td>
<td>27.6</td>
<td>25.7</td>
<td>-1.9</td>
<td></td>
</tr>
<tr>
<td>--- in the classrooms</td>
<td>29.5</td>
<td>43.8</td>
<td>14.2</td>
<td>0.14</td>
</tr>
<tr>
<td>--- at the Internet</td>
<td>24.4</td>
<td>33.0</td>
<td>8.5</td>
<td></td>
</tr>
<tr>
<td>--- are presented at meetings with parents</td>
<td>57.9</td>
<td>50.0</td>
<td>-7.9</td>
<td></td>
</tr>
</tbody>
</table>

Persons of school contribute to the formulation of the behaviour rules

Teachers and pupils collaborate in formulating and checking pro-social behaviour rules

68.5 | 63.8 | -4.7 |

T. Mooij & E. Smeets ECER 2011

Discussion

1. Information literacy and adequate problem analysis

2. School-based, systemic multilevel process information and ICT-development in collaboration with teachers, pupils and national policy

3. Longitudinal monitoring and (quasi-)experimental research

T. Mooij & E. Smeets ECER 2011

Outcomes

Most promising school strategies to improve the pupils’ feelings of safety at school and in the school surroundings:
* enhancement of pupils’ level of attainment
* taking measures against playing truant and weapons
* stimulating pro-social formulation and shared control of rules between teachers and pupils
* attention to pupils’ involvement in school
* involvement of external institutions and the police in school safety procedures
* having a tailored Dutch language policy in the curriculum

T. Mooij & E. Smeets ECER 2011

Some references


T. Mooij & E. Smeets ECER 2011