Accelerating Educational Change

Evaluating the development of the ‘ability to innovate’ within teacher training institutes

Pieter Swager, Jeroen Bottema, Jos Fransen

Inholland Centre for Teaching, Learning & Technology
Presentation overview

- Short introduction to the Kennisnet projects Learning from the Future 3 + 4
- Goals, main question & structure of both studies
- The ‘ability to innovate’ model
- Overview, results and key conclusions
- Reflection and recommendations
Learning from the future 3+4

→ accelerated education change
→ teacher trainers experimenting with ‘new ICT’
→ strengthening the ‘ability to innovate’
→ teacher education and practice in schools
→ teacher training institutes
→ primary and secondary education
Goal of the evaluation research

→ experiences with, and appreciation of, the innovative use of ICT

→ project’s effect on the ability to innovate

Teacher’s innovation ability → Team’s innovation ability → Faculty’s innovation ability

Student’s innovation ability → ‘Trainees’ innovation ability → Institution’s innovation ability
Main research question (both studies)

How does the ‘ability to innovate’ of teacher training institutes taking part in the Kennisnet projects ‘Learning from the future’, develop?
Design of the evaluation research (study 1)

- Developing an ‘ability to innovate’ model based on theory → instrumentation
- Participants → participating teachers and students + non-participating teachers

**Participating teachers**
- Individual interviews [8]

**Participating students**
- Focus group [4 participants]

**Non-participating teachers**
- Focus group [5 participants]

Transcripts of all voice recordings → analysis and interpretation of the data
Design of the evaluation research (study 2)

developing an ‘ability to innovate’ model based on theory → instrumentation

participants → participating teachers and students + non-participating teachers + other stakeholders

participant teachers
Focus group [8 participants]

participating students
Focus group [4 participants]

non-participating teachers
Focus group [4 participants]

managers and trainers
interview [4 participants]

Transcripts of all voice recordings → analysis and interpretation of the data
‘ability to innovate’ model

Potential for innovation

- individual
  - readiness to learn educational vision ICT skills
- team
  - creativity ICT vision expertise

Generating ideas

- individual
  - inspiring team sharing knowledge coaching colleagues
- team
  - feedback culture collaborative learning communication
- organisation
  - focus on learning ICT infrastructure ICT support
- ICT-application
  - meaningful user friendly adaptivity

Achieving ideas

- shared practice
  - team-wide acceptance sustainable innovation

organisation

degree of involvement education and ICT vision prof.development
## Research results (study 1)

<table>
<thead>
<tr>
<th>Category</th>
<th>Teachers [active]</th>
<th>Students</th>
<th>Teachers [other]</th>
</tr>
</thead>
</table>
| **General**    | • Strong ownership  
• Reflection on education | • Very motivated  
• More involved                                           | • Colleagues were inspired  
• No active involvement                                      |
| **Individual** | • More student centered  
• Ambition to learn    | • Big differences skills and visions teachers                                  | • Connection to practice  
• Own ICT skills                                           |
| **Team level** | • No shared vision  
• No feedback culture                                      | • No shared vision  
• Varied view on ICT use                                         | • No shared vision  
• Did not learn much                                       |
| **Organisation** | • Committed management  
• Voluntary ICT implementation  | • Doubts about policy  
• Help desk is fine                                                 | • Facilitated teaching  
• Adjusted ambitions                                          |
| **Application** | • Connection to practice  
• Technical questions                                   | • Teachers grew  
• User-friendliness                                      | • Relationship to needs  
• Relationship to practice                                   |
| **Future**     | • New experiments  
• Possibility to grow                                        | • Differences in team  
• Concerning primary schools                               | • Take sufficient time  
• External support                                           |
## Research results (study 1)

<table>
<thead>
<tr>
<th>category</th>
<th>teachers [active]</th>
</tr>
</thead>
</table>
| **general**    | • Strong ownership  
                 • Reflection on education |
| **individual** | • More student centered  
                 • Ambition to learn |
| **team level** | • No shared vision  
                 • No feedback culture |
| **organisation** | • Committed management  
                 • Voluntary ICT implementation |
| **application** | • Connection to practice  
                 • Technical questions |
| **future**     | • New experiments  
                 • Possibility to grow |
### Sub conclusions (study 1)

<table>
<thead>
<tr>
<th>Group</th>
<th>Sub conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>• The project is a powerful instrument to strengthen one’s development&lt;br&gt;• Transfer is only possible when based on a shared vision and strong guidance</td>
</tr>
<tr>
<td>Students</td>
<td>• Project contributed to gaining insight into own innovation potential&lt;br&gt;• Effect of project is visible mainly for teachers actively involved&lt;br&gt;• Management needs to encourage teachers to experiment with ICT&lt;br&gt;• Involve the primary schools; they are an important stakeholder</td>
</tr>
<tr>
<td>Teachers</td>
<td>• A shared vision on educational use of ICT must be starting point&lt;br&gt;• Limited ICT skills and minimal trust are potential risks&lt;br&gt;• Support through Kennisnet is also necessary for the follow up&lt;br&gt;• ICT innovation in small steps in a small scale context is preferred</td>
</tr>
</tbody>
</table>
# Research results (study 2)

## General

<table>
<thead>
<tr>
<th>Teachers [active]</th>
<th>Students</th>
<th>Teachers [other]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time for learning together</td>
<td>Very motivating</td>
<td>Getting to know ICT</td>
</tr>
<tr>
<td>Reflection on education</td>
<td>ICT skills</td>
<td>Share even more knowledge</td>
</tr>
</tbody>
</table>

## Individual

<table>
<thead>
<tr>
<th>Teachers [active]</th>
<th>Students</th>
<th>Teachers [other]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness: role model</td>
<td>Large differences</td>
<td>Not experimenting</td>
</tr>
<tr>
<td>Difference in opinion</td>
<td>Know the limits</td>
<td>Own ICT skills</td>
</tr>
</tbody>
</table>

## Team level

<table>
<thead>
<tr>
<th>Teachers [active]</th>
<th>Students</th>
<th>Teachers [other]</th>
</tr>
</thead>
<tbody>
<tr>
<td>No shared vision</td>
<td>No shared vision</td>
<td>No shared vision</td>
</tr>
<tr>
<td>No feedback culture</td>
<td>expertise unused</td>
<td>Not enough exchange</td>
</tr>
</tbody>
</table>

## Organisation

<table>
<thead>
<tr>
<th>Teachers [active]</th>
<th>Students</th>
<th>Teachers [other]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involved management</td>
<td>Doubts about policy</td>
<td>Stimulates ICT</td>
</tr>
<tr>
<td>Limited support</td>
<td>ICT use too voluntary</td>
<td>Good project leader</td>
</tr>
</tbody>
</table>

## Application

<table>
<thead>
<tr>
<th>Teachers [active]</th>
<th>Students</th>
<th>Teachers [other]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connected to practice</td>
<td>Relationship to practice</td>
<td>More effective education</td>
</tr>
<tr>
<td>Some technical issues</td>
<td>ICT situation in practice</td>
<td>Use experienced teachers</td>
</tr>
</tbody>
</table>

## Future

<table>
<thead>
<tr>
<th>Teachers [active]</th>
<th>Students</th>
<th>Teachers [other]</th>
</tr>
</thead>
<tbody>
<tr>
<td>New experiments?</td>
<td>Differences in team</td>
<td>Possibility to grow</td>
</tr>
<tr>
<td>Involving colleagues?</td>
<td>Also in practice</td>
<td>Use the innovators</td>
</tr>
</tbody>
</table>
# Research results (study 2)

<table>
<thead>
<tr>
<th>category</th>
<th>teachers [active]</th>
</tr>
</thead>
<tbody>
<tr>
<td>general</td>
<td>• Time for learning together</td>
</tr>
<tr>
<td></td>
<td>• Reflection on education</td>
</tr>
<tr>
<td>individual</td>
<td>• Awareness: role model</td>
</tr>
<tr>
<td></td>
<td>• Difference in opinion</td>
</tr>
<tr>
<td>team level</td>
<td>• No shared vision</td>
</tr>
<tr>
<td></td>
<td>• No feedback culture</td>
</tr>
<tr>
<td>organisation</td>
<td>• Involved management</td>
</tr>
<tr>
<td></td>
<td>• Limited support</td>
</tr>
<tr>
<td>application</td>
<td>• Connected to practice</td>
</tr>
<tr>
<td></td>
<td>• Some technical issues</td>
</tr>
<tr>
<td>future</td>
<td>• New experiments?</td>
</tr>
<tr>
<td></td>
<td>• Involving colleagues?</td>
</tr>
</tbody>
</table>
### Research results (study 2) (continued)

<table>
<thead>
<tr>
<th>category</th>
<th>managers and trainers</th>
</tr>
</thead>
</table>
| general        | • Targeted approach to innovation achieved  
• Attitude teachers to use ICT changed                                       |
| individual     | • Large differences in opinions teachers  
• More contribution to development curriculum                                    |
| team level     | • Development of vision at organisation level  
• Variety of formal/informal exchanges                                             |
| organisation   | • PM positive about leadership management  
• Kennisnet supported PM and manager                                               |
| application    | • ICT can also support working more efficiently  
• Adjusted to different contexts of the users                                     |
| future         | • Start new experiments  
• Targeted approach of the project                                                  |
## Final conclusions

<table>
<thead>
<tr>
<th>factor</th>
<th>relationship to ‘ability to innovate’</th>
</tr>
</thead>
<tbody>
<tr>
<td>time to learn</td>
<td>Important pre-condition for innovation process</td>
</tr>
<tr>
<td>vision on use of ICT</td>
<td>No shared vision on educational use of ICT</td>
</tr>
<tr>
<td>leadership style</td>
<td>Involved in content; focused investment</td>
</tr>
<tr>
<td>ICT characteristics</td>
<td>ICT must contribute to achieve educational goals</td>
</tr>
<tr>
<td>infrastructure</td>
<td>didactical and technical support needed</td>
</tr>
</tbody>
</table>
Reflection on research results

- Project approach created distance between groups
- Can/want/may plays a role at the individual level
- If ICT implementation is voluntary, ‘ability to innovate’ reduces
- Collaborative learning makes innovation more likely
- Lack of feedback culture limits learning process
- Management needs to guide innovation process
- Potential for innovation in teacher training institutes has grown
Characteristics of innovators

→ ‘want’ more important than ‘can’ and ‘may’
Characteristics of [late] followers

→ ‘can’ more important than ‘want’ and ‘may’
Reflection on ‘ability to innovate’

Innovation potential

- Individual
  - Openness to learn educational vision
  - ICT skills

- Team
  - Creativity
  - ICT vision expertise

Idea generation

- Individual
  - Inspiring team
  - Sharing expertise
  - Coaching colleagues

- Team
  - Feedback culture
  - Collaborative learning
  - Communication

- Organisation
  - Attention to learning
  - ICT infrastructure
  - ICT support

- ICT application
  - Appropriateness
  - User friendliness
  - Flexibility

Idea realisation

- Shared practice
  - Team-wide acceptance and long-term implementation

Want

- May
  - Can

Organisation

- Involvement
  - ICT + education vision
  - Professionalisation
Recommendation (studies 1 & 2)

→ Minimise gap between innovators and followers
→ Encourage experimentation together and share expertise
→ Involve more teachers in less experiments
→ Strengthen vision development through shared learning
→ Make ICT development compulsory
→ connect bottom up approach with top-down policy
Questions?

pieter.swager@inholland.nl
jeroen.bottema@inholland.nl
jos.fransen@inholland.nl

research reports:
http://innovatie.kennisnet.nl/onderzoek-naar-het-leren-van-de-toekomst-bevestigt-model-voor-innovatiekracht/