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**e-PIC Tool**
Professional vision of Inclusive Classrooms

KAROLIEN KEPPENS, ESTHER GHEYSSSENS & IRIS ROOSE
Context

Growing diversity in schools (Cochran-Smith, 2014)

Tendency towards more inclusive learning environments (UNESCO, 1994; United Nations, 1989, 1933)

Growing complexity for teachers

Challenges to the professional development of (student) teachers
POTENTIAL Project goals

- MAIN GOAL: Develop (student) teachers’ competences to create inclusive learning environments
- By

- A. APPRECIATING & EXPLOITING DIVERSITY IN THE CLASSROOM
- B. ESTABLISHING COLLABORATIVE TEAMING

Inclusive education?

“‘Inclusive education’ refers to the inclusion and teaching of ALL children in formal or non-formal learning environments without regard to gender, physical, intellection, social, emotional, linguistic, cultural, religious or other characteristics” (UNESCO, 2015, p. 10)
POTENTIAL—Power to Teach All

- In order to map the development of (student) teachers’ competences a measurement instrument is developed

e-PIC TOOL
e-PIC TOOL

• Designed to measure (student) teachers’ **professional vision** of **inclusive classrooms**

• Designed for 4 target groups
  • Primary school teachers
  • Pre-service primary school teachers
  • Secondary school teachers
  • Pre-service secondary school teachers

Conceptual framework
e-PIC TOOL
Professional vision of inclusive classrooms

- The use of knowledge to notice and reason about significant features of classroom situations (Seidel & Stürmer, 2014)

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e-PIC TOOL
Professional vision of inclusive classrooms

- Noticing
  - The attention teachers pay to events that are of importance for teaching and learning in classrooms
  - A way to prompt teacher knowledge

- Reasoning
  - The ability to take a reasoned approach to events noticed in the classroom
  - An indicator of “integrated” teacher knowledge

- Promising to establish a theory-practice connection (Stürmer, Seidel & Schäfer, 2013)
e-PIC TOOL
Professional vision of inclusive classrooms

- Two dimensions of effective inclusive classrooms:
  - Teacher-student interactions (TSI)
  - Differentiated instruction (DI)
- Both have substantial impact on students’ cognitive, affective and motivational outcomes (e.g. Davis, 2003; Roorda, Koomen, Spilt & Oort, 2011)
Video-based comparative judgement

Supports theory-practice connection in professional vision
Comparative judgement

• “humans are better at comparing objects against one another than they are at comparing one object against specified criteria” (Thurstone, 1994)
• Comparing pairs of objects
• Leads to a rank order of objects
• Holistic & intuitive

Video-based comparative judgement to assess professional vision

• STANDARDISED

• Formative assessment purposes
• Efficient data analysis
Video-based comparative judgement to assess professional vision

- INNOVATIVE

- Existing standardised tools
  - Analytic assessment
    - Rating items (e.g. Meschede et al., 2007)
    - Scoring rubrics (e.g. Kersting et al., 2008)
    - Fail to represent the construct to be measured within all its dimensions (Lesterhuis et al., 2017)

- Video-based comparative judgement instrument
  - Intuitive: no criteria
  - Holistic: allows for different frames of reference

= NOTICING
Measuring teachers’ noticing of TSI & DI

An individual teachers’ rank order of clips for TSI / DI

An expert (group) rank order of clips for TSI / DI

Videografie instrument secundair onderwijs

Motivering vergelijkingen: interacties

Bedankt voor het selecteren van de videoclip die jij teltens het beste vond. Nu willen we nagaan welke argumenten voor jou doorslaggevend waren bij het maken van deze keuzes.

Geef aan in welke mate je je hebt laten leiden door volgende argumenten bij je keuze voor beste clips op vlak van INTERACTIES. Je duidt 0 aan als je dit argument niet zag in de videoclips. Je duidt +++ aan als dit argument voor jou doorslaggevend was bij het maken van je keuze.

Ik koos voor de clips waarin ...

<table>
<thead>
<tr>
<th>Argument</th>
<th>0 (niet gedeel)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4 (doorslaggrend)</th>
</tr>
</thead>
<tbody>
<tr>
<td>de leerlingen aanmoediging krijgen</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>ruimte is voor zelfreflectie en zelfevaluatie</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>de leerlingen luisteren naar de leraar</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>een effectief klasmanagement gehanteerd wordt</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>positieve affectie aanwezig is tussen de leraar en de leerlingen</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>duidelijke communicatie gebruikt wordt</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>leerlingen ondersteuning krijgen</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

= REASONING
Reasoning

= how events in the classroom are interpreted based on knowledge about teaching and learning (van Es & Sherin, 2009).

WHY?

When do we ask about the reasoning?

<table>
<thead>
<tr>
<th>After all the comparisons</th>
<th>After each comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Easier to analyse</td>
<td>• Harder to analyse</td>
</tr>
<tr>
<td>• Less ‘direct’: overall reasoning</td>
<td>• Direct: after each comparison</td>
</tr>
<tr>
<td>• Less time</td>
<td>• More time to complete</td>
</tr>
<tr>
<td></td>
<td>• Easier to fill in over time</td>
</tr>
</tbody>
</table>
1. Selection of video clips
2. Validation of the expert rank order
3. Pilot study with (student-)teachers
4. Baseline study with (student-)teachers
1. Selection of video clips
2. Validation of the expert rank order
3. Pilot study with (student-)teachers
4. Baseline study with (student-)teachers

- Raw video material
  - Primary education: previous project
  - Secondary education: filming 10 lessons
  - Variety of subjects & grades

- Selection of video segments
  - 3 criteria
    - Varying quality of TSI
    - Varying quality of DI
    - High overall quality (noise, visibility quality)
  - Different frameworks on TSI & DI
    - Attachment Theory
    - Self-Determination Theory
    - DI
    - Literature on effective inclusive classroom

- Editing video segments in videoclips (+-2 min.) showing aspects of
  - TSI
  - DI

- No context information → intuitive aspect of the method

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1. Selection of video clips
2. Validation of the expert rank order
3. Pilot study with (student-)teachers
4. Baseline study with (student-)teachers

- 2 expert studies
  - Validation expert rank order primary education
  - Validation expert rank order secondary education

- In collaboration with D-PAC (www.d-pac.be)

- Quantitative data
  - Analysis of (student) teachers’ misfit

- Qualitative data
  - Analysis of
    - Written reasoning arguments to
      - Interpret the quantitative data

- Conclusion
  - The expert rank orders of video clips are
    - Valid and reliable
    - Represent experts’ professional vision in a holistic way
• **4 pilot studies**

<table>
<thead>
<tr>
<th></th>
<th>Student teachers</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>278</td>
<td>27</td>
</tr>
<tr>
<td>Secondary</td>
<td>13</td>
<td>32</td>
</tr>
</tbody>
</table>

• **Quantitative data**
  - Analysis of
    - Representation infit
    - Judge infit
    - Reliability measures

• **Qualitative data**
  - Focus group

• **Conclusion**
  - Small sample size → exploratory conclusions
  - Noticing
    - Misfit seems normally distributed with significant variance
  - Reasoning
    - 1 factor: no 3 dimensions of description, explanation & prediction
  - Focus group
    - Confirmation of content validity
    - Positive experience as professional development tool

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• **September-October 2017**

• **Representative sample of Flemish Population**

• **Sample**
  - Teacher Education: 8 institutions (primary & secondary)
  - Schools: 33 primary & 26 secondary
Ethical issues

• Three basic principles (National Commission for the Protection of Human subjects of Biomedical and Behavioral Research, 1979):
  • respect of the persons
  • respect of beneficence
  • respect for justice
Ethical issues

Video selection:
- Privacy rights
- Informed consents
- Formal written permissions
- Restricted ⇔ unrestricted permissions

Pitfalls:
- Not obtaining broad enough written permission
- Participants can decide to revoke their permission
- Participants may act differently when videotaped

Demonstration
e-PIC
Login

The login system has to provide:

- Access to the online platform where the participants can find the videography tool, but also a survey and a social network tool
- An unique and personal login for each participant
- The possibility to pause and restart the instructions
Welkom bij POTENTIAL.

Beste Esther Gheyssens,

U werd gevraagd om enkele instrumenten in te vullen, gelieve de instructies in de e-mail die u hieromtrent ontvangen heeft, te volgen. Alvast hartelijk bedankt voor het deelnemen aan deze pilootstudie.

Instrumenten:
- Vragenlijst kinderopvoeding - lagere onderwijs
- Vragenlijst kinderopvoeding - secundaire onderwijs
- Vragenlijst leerkrachten - basisonderwijs
- Vragenlijst leerkrachten - secundaire onderwijs
- Sociaal netwerk instrument
- Videografie instrument lagere onderwijs

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Videografie instrument lager onderwijs

Voorbeeld
- Geef aan welke clip de leerkracht het meest inclusief voelde in zijn/her interacties met de leerlingen.

CLIP A

Bepaal interacties
Geef aan in welke clip de leerkracht het meest inclusief voelde in zijn/her interacties met de leerlingen.

CLIP A

Bepaal werkkenen en aanpak
Geef aan in welke clip de leerkracht het meest inclusief voelde in zijn/her werkkenen en aanpak.

CLIP A
➢ The students receive encouragement
➢ The teacher radiates calmness
➢ The teacher pays attention to students’ talents
➢ The teacher establishes an effective class management
➢ There is positive affection between the teacher and the students
➢ The teachers uses clear communication
➢ The students receive support
➢ The teacher is available to the students
➢ Students receive feedback on their learning process
➢ The students are involved during the lesson
➢ The students are treated equally by the teacher
➢ The teacher gives responsibilities to the students
➢ There is a calmly sphere in the classroom
➢ There is a safe classroom environment
➢ The students can be themselves in the classroom
➢ The students receive compliments
➢ The students receive feedback about their learning process
➢ The teacher uses a clear language
➢ The lesson is structured
➢ The students are working actively during the lesson
➢ The teacher takes into account the learning pace of the students
➢ The teacher pays attention to the capabilities of the individual students
➢ There are variations in assignments and teaching methods
➢ The teacher addresses the interests of students
➢ The teacher uses a playful approach
➢ The teacher uses activating teaching methods
➢ The students have a voice in the classroom
➢ The teacher acts as a coach
➢ The students are able to use resources
➢ The teacher pays attention to different learning styles and learning profiles of students
➢ The students receive support from the teacher
➢ The students are motivated
➢ The students have different responsibilities, functions and roles during cooperative learning assignments
Individual feedback on teachers’ noticing (misfit)

Individual feedback on teachers’ reasoning (future)

Touiticht
Hieronder zie je in de cirkel wat je belangrijk vindt in een inclusieve leeromgeving op vlak van interactie tussen de leerkrachten en de leerlingen.

- De lichtgroene veelhoek toont wat je naast doorlopend vindt om diversiteit te benutten via interacties.
- De paarse veelhoek toont wat jouw collega’s/meedestudenten belangrijk vinden.
- Een brede groep onderwijsprofessionals (pedagogisch begeleiders, lerarenopleiders, academici en onderwijsbegeleiders) hebben deze clips ook vergeleken. Wat zij belangrijk vinden, zie je in het blauw.

Aan de slag!
1. Vergelijk jouw eigen vlak met dat van jouw collega’s/meedestudenten.
   - In welke punten komen de 2 kleuren samen?
   - Welke punten zijn enkel lichtgroen?
   - Welke punten zijn enkel paars?
2. Vergelijk nu jouw eigen vlak met dat van de onderwijsprofessionals.
   - Zie je hier meer of minder overeenkomsten dan met jouw meedestudenten?
   - Wat hebben jullie geleerd over jullie eigen visie op het benutten van diversiteit via werkvormen en aanpak?
   - Wat willen jullie meenemen in jullie competentieontwikkeling tot leerkracht?
Special thanks to...
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