Measuring Classroom Quality in Pre-K Inclusive programs: Development of the Inclusive Classroom Profile

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Aims

- Describe the development of the ICP
- Present findings from validation study
- Discuss implications for research, professional development & practice
Purpose of study

- To develop reliable and valid quality indicators of classroom practices in inclusive preschool programs
Why assess quality in inclusive pre-k classrooms?

- Quality of EC programs $\rightarrow$ children’s development
- Increased political commitment to inclusion
- More children with disabilities in pre-k
- Growing body of evidence-based practices
Challenges in measuring quality in inclusive classrooms
1st Challenge

- High quality inclusion is a multidimensional construct and reflects a broad system of practices
2\textsuperscript{nd} Challenge

- Lack of consensus on dimensions of high quality inclusive practices
3rd Challenge

- Inadequacy of existing quality standards and measures
  - Not designed specifically to measure inclusive classroom practices
  - The problem with global ratings
“Young children with disabilities can experience low quality in classes that are otherwise rated as being of high quality”
(Wolery et al., 2000)
The Inclusive Classroom Profile (ICP)

- Structured observation
- 1-7 pt Likert-type scale
- 11 items
- Observation focus → Classroom level practices
Six phases

I. Exploratory research
II. Conceptualization
III. Item generation
IV. Expert review
V. Piloting
VI. Validation
Exploratory research

- Systematic fieldwork in pre-k classrooms
- Review of the literature
A purely conceptual approach to measure construction neglects empirical reality which is subject to change as rapid developments in research and public policy drive our everyday practice. On the other hand, a purely empirical approach to scale item generation might not appreciate the usefulness of grounding empirically derived data on past knowledge and current literature (Viswanathan, 2005).
Exploratory fieldwork

- 18 non-participant observations
- 3-hour observations
- 4 classrooms
- 5 months
Literature review

- Research studies
- Review of existing measures & standards
- Policy documents, position statements & reports
Research studies

- **Activity space, materials and toys** (Ivory & McCollum, 1999; Kim et al., 2002)
- **Class schedule** (Frazeur-Cross et al., 2004)
- **Children’s characteristics & needs** (Gulalnick, 1996, 2001; Fox et al., 2004)
- **Teacher-child interaction patterns** (Brown & Bergenm, 2002; Hundert & Mahoney, 1993; Odom & Bailey, 2001; File, 1994; McWilliam & Bailey, 1995; Kontos et al., 1998)
- **Peer interactions** (Buysse et al., 2003; Hamilton, 2005; Guralnick, 1990; Odom, 1999; Craig-Unkefer & Kaiser, 2002)
- **Child engagement in activities & interactions** (Jolivette et al., 2002)
- **Type & nature of activities** (Hauser-Cram et al., 1993)
- **Instructional approaches & interventions** (Buysse & Bailey, 1993; McWilliam et al., 2001; Horn et al., 2000; Morrison et al., 2002; Odom et al., 2004; Kaiser et al., 2001; Odom et al., 1999)
- **Collaboration among adults & professionals in the classroom** (Cook, Klein & Tessier, 2004).
Conceptualization

- Aim: To create a conceptual definition that describes the construct in ways that it can be understood and distinguished from other related concepts.
“Inclusive adaptations”

“Practices which deliberately adapt the classroom’s environment, activities and instructional support in ways that encourage participation and active engagement in the group, through adjustments that differ from child to child”
Example indicator 1

- Adults **deliberately** organize the physical space (including materials/equipment) during the day **to encourage peer interaction** (e.g., teacher adds a chair to computer area for child who is standing and watching a peer playing; adult sets-up circle area to encourage children to read together; adult takes out more puppets to encourage other children to join the puppet area; adult repositions child on wheelchair so that she can face her peers). (O)
Item generation

- Items $\rightarrow$ indicators $\rightarrow$ criteria for scoring

- Balancing indicators of general and specific relevance
Example indicator 2

- Adults *monitor children’s involvement in play and when needed, help individual children to become involved* (e.g., adults help children find toys that are appropriate for their age and level; suggest games and activities; redirect child from self stimulatory behaviours to more purposeful play). (O)
Expert review

- Quantitative ratings of importance of items (1-5 pt scale)
  - 75% of items > mean rating of 4.5 (n=5)

- Qualitative ratings on scale items
  - Exploration of balance, omissions, clarity, gradual incline & representation of indicators within items
Piloting

- Modifications in items/indicators; scoring criteria, further clarification of terms & examples

- Training & administration issues
ICP Items

1. Adaptation of space and materials
2. Adult involvement in peer interactions
3. Adult guidance of children’s play
4. Conflict resolution
5. Membership
6. Adult-child social interactions
7. Support for social communication
8. Adaptation of group activities
9. Transitions between activities
10. Feedback
11. Planning and monitoring children’s individual needs and goals
Validation study

What is the evidence for the scale’s:

1. Internal consistency reliability
2. Inter-rater reliability
3. Factor structure
4. Construct validity (cross-construct correlations with other measures)
Sample and participants

- 45 classrooms
- 112 children with IEP
- 42% formally assessed
- 2.5 children with SEN per classroom (range=1-17, SD=2.78)
- Mean age = 50 months (range=36-72)
- 71.1% learning support assistant provided
- 91% no training in special education needs
- 67% public programs
Methods

- Direct, structured observation
  - Non participant
  - Two classroom visits

- Structured interviews (teachers, TAs, LSAs & therapists)
Measures

- Early Childhood Environment Rating Scale (ECERS-R) (Clifford, Harms & Cryer, 1998)

- The Early Childhood Environment Rating Scale: Extension (ECERS-E) (Sylva et al., 2003)

- The Caregiver Interaction Scale (CIS) (Arnett, 1989)
## Descriptive analysis: Item level

<table>
<thead>
<tr>
<th>Item</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 1</td>
<td>45</td>
<td>3.8</td>
<td>1.13</td>
<td>5</td>
<td>1</td>
<td>6</td>
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<tr>
<td>Item 2</td>
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<td>2.5</td>
<td>0.99</td>
<td>4</td>
<td>1</td>
<td>5</td>
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<tr>
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<td>3.8</td>
<td>0.93</td>
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<td>1</td>
<td>6</td>
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<tr>
<td>Item 4</td>
<td>10</td>
<td>3.2</td>
<td>0.91</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Item 5</td>
<td>45</td>
<td>2.5</td>
<td>1.12</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Item 6</td>
<td>45</td>
<td>3.2</td>
<td>0.57</td>
<td>3</td>
<td>1</td>
<td>4</td>
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<td>Item 7</td>
<td>45</td>
<td>3.3</td>
<td>1.26</td>
<td>6</td>
<td>1</td>
<td>7</td>
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<tr>
<td>Item 8</td>
<td>45</td>
<td>4.5</td>
<td>1.19</td>
<td>3</td>
<td>3</td>
<td>6</td>
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<tr>
<td>Item 9</td>
<td>45</td>
<td>3.0</td>
<td>1.03</td>
<td>5</td>
<td>1</td>
<td>6</td>
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<tr>
<td>Item 10</td>
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<td>3.3</td>
<td>1.20</td>
<td>6</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Item 11</td>
<td>45</td>
<td>3.3</td>
<td>1.06</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
ICP composite score

- mean of 10 items for each classroom
- Mean = 3.34 (range = 1.33 - 4.70; SD = 0.68)
- 91.1% of classrooms scored in the midrange of composite (2.4 - 4.4)
Internal consistency

- Cronbach’s α = 0.79 (n=45)
Exploratory Factor Analysis
CFA

Model Fit
\( \chi^2 = 35.164 \)
\( \text{df} = 35 \)
\( p = .460 \)
\( \text{CMIN/df} = 1.005 \)
\( \text{RMSEA} = .010 \)
\( \text{NNFI} = .998 \)
\( \text{CFI} = .998 \)
Inter-rater agreement

- Item-level inter-rater agreement
- 22% of the sample
- \( \kappa = .79 \)
### Mean weighted kappa scores

<table>
<thead>
<tr>
<th>Scale Items</th>
<th>k</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 1 (space &amp; materials)</td>
<td>.896</td>
</tr>
<tr>
<td>Item 2 (peer interactions)</td>
<td>.742</td>
</tr>
<tr>
<td>Item 3 (guidance for play)</td>
<td>.922</td>
</tr>
<tr>
<td>Item 5 (membership)</td>
<td>.896</td>
</tr>
<tr>
<td>Item 6 (social interactions)</td>
<td>.931</td>
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<tr>
<td>Item 7 (social communication)</td>
<td>.855</td>
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<tr>
<td>Item 8 (group activities)</td>
<td>.450</td>
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<tr>
<td>Item 9 (transitions)</td>
<td>.606</td>
</tr>
<tr>
<td>Item 10 (feedback)</td>
<td>.790</td>
</tr>
<tr>
<td>Item 11 (planning &amp; monitoring individual goals)</td>
<td>.851</td>
</tr>
</tbody>
</table>
# Cross-construct correlations

<table>
<thead>
<tr>
<th>Measures</th>
<th>M</th>
<th>SD</th>
<th>Correlations with ICP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECERS-R (total composite)</td>
<td>4.23</td>
<td>0.66</td>
<td><strong>0.62</strong>* ***p&lt;0.001</td>
</tr>
<tr>
<td>ECERS-R Subscale (Space &amp; furnishings)</td>
<td>4.39</td>
<td>0.76</td>
<td><strong>0.55</strong>* ***p&lt;0.001</td>
</tr>
<tr>
<td>ECERS-R Subscale (Language &amp; reasoning)</td>
<td>3.82</td>
<td>0.80</td>
<td><em><strong>0.53</strong></em> ***p&lt;0.001</td>
</tr>
<tr>
<td>ECERS-R Subscale (Activities)</td>
<td>3.58</td>
<td>0.79</td>
<td><strong>0.38</strong> <strong>p&lt;0.01</strong></td>
</tr>
<tr>
<td>ECERS-R Subscale (Interaction)</td>
<td>4.96</td>
<td>0.98</td>
<td><strong>0.51</strong>* ***p&lt;0.001</td>
</tr>
<tr>
<td>ECERS-R Subscale (Program structure)</td>
<td>5.00</td>
<td>0.89</td>
<td><strong>0.49</strong>* ***p&lt;0.001</td>
</tr>
<tr>
<td>ECERS-E Diversity subscale- Item1 (Planning for individual needs)</td>
<td>2.28</td>
<td>1.27</td>
<td><strong>0.48</strong> <strong>p&lt;0.01</strong></td>
</tr>
<tr>
<td>ECERS-E Diversity subscale- Item2 (Gender equality)</td>
<td>1.82</td>
<td>0.93</td>
<td><strong>0.04</strong></td>
</tr>
<tr>
<td>ECERS-E Diversity subscale- Item 3 (Race equality)</td>
<td>2.51</td>
<td>0.96</td>
<td><strong>0.08</strong></td>
</tr>
<tr>
<td>CIS Subscale (Positive relationships)</td>
<td>2.77</td>
<td>0.72</td>
<td><strong>0.49</strong> <strong>p&lt;0.01</strong></td>
</tr>
</tbody>
</table>
| CIS Subscale (Detachment)                     | 1.44 | 0.76 | -**0.33** *p<0.05"
Conclusions

- This study identified quality indicators of classroom practices which extend beyond those typically assessed by existing measures to support the learning needs of children with disabilities in inclusive preschools.

- The newly developed scale has good inter-rater reliability, is internally consistent and shows good factor structure.

- The pattern of moderately high and lower cross-construct correlations might provide initial support for the construct validity of the ICP.
Limitations

- Characteristics & size of sample
- Observer bias
- Limited-inter-rater reliability
- Partial use of measures
Implications

- For research:
  - Assess program quality
  - Investigate relationship between quality and children’s outcomes

- For program quality assessment

- For practice
  - Inform professional development models
Where do we go from here?

- Additional validation study
- Use of the ICP for professional development
- Training
- Use of the ICP in the US/UK/Greece/Portugal
THANK YOU

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