Quality in early childhood education

- Attending an educational setting early in life promotes children’s development and learning (McCain, Mustard, & McCuaig, 2011; OCDE, 2012).
- Quality have been identified as an essential variable in achieving such gain (e.g. Bigras & Lemay, 2012; Britto et al., 2017; Burchinal, Kainz, & Cai, 2011; Zaslow, Martinez-Beck, Tout, & Halle, 2011).
- A lot of attention have been given to various indicators of quality supporting children’s development, mostly physical environment, activities, as well as interactions offered to children (Planta, Downer, & Hamre, 2016).
- However, offering high quality in early childhood education starts before intervening with children.
Educational intervention as a process

- What adults think and decide prior being with children affect what they do while intervening with them (Clark & Yinger, 1987; Hall & Smith, 2006).
- Early childhood educators (ECEs) should start with observing each child and then plan to best meet his or her needs (Bredekamp & Copple, 1997; NAEYC, 2009).
- Observing, planning and intervening form an inseparable process in offering high quality educational intervention.
- Few research has assessed the quality of observation and planning practices (Bollig & Schulz, 2012).

Assessing the quality of observation and planning practices

- Existing measures of quality assess the physical environment, the activities and the interactions
- Only 2 scales measure the quality of observation and planning practices
  - High/Scope Program Quality Assessment tool (PQA, 2003) – 5 items
  - Educational Quality Observation Scale (EQOS; Bourgon & Lavallée, 2013) – 7 items
- Both scales mostly rely on reported practices
- Needed improvements
Conception of the *Quality of educators' observation and planning practices scale*

- Reviewing and analyzing relevant documents;
- Developing the first draft of the QEOPSS a 30 minutes semi-structured interview:
  - Inspired from the 7 items of the EQOS (*Bourgon & Lavallée, 2013*);
  - Including verification of documents reported in the interview;
  - Adding questions about the use of a curriculum to guide educational intervention;
  - Developing the scoring guide;
- Spring 2016, ensuring content validity of the instrument with a panel of experts.

**Research objectives**

- This study wants to explore the properties of the QEOPPS. More specifically:
  1. Describe data collected with the instrument.
  2. Test the reliability of the scale.
  3. Test the validity of the scale.
Sample

- This study was conducted in Quebec (Canada) in the fall of 2016.
- Representative sample of types of child care centers, socioeconomic conditions and of curriculum framework implemented.
- From 300 centers randomly selected, 62 participated (≈ 3 ECE in each).
- Subjects are 181 ECEs working in 3 to 5 year-old groups of children.

<table>
<thead>
<tr>
<th>Type of centers</th>
<th>94 not-for-profit centers (51.9%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>38 for-profits subsidies centres (21.0%)</td>
</tr>
<tr>
<td></td>
<td>49 in-for-profits unsubsidised centres (27.1%)</td>
</tr>
</tbody>
</table>

Material et social deprivation indices

<table>
<thead>
<tr>
<th>Material et social deprivation indices</th>
<th>ECEs' centers are located in area where...</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>26 (15.1%) ... where social and material living conditions are favourable</td>
</tr>
<tr>
<td></td>
<td>26 (15.1%) ... where social and material living conditions are average</td>
</tr>
<tr>
<td></td>
<td>42 (24.4%) ... where material living conditions are unfavourable</td>
</tr>
<tr>
<td></td>
<td>36 (20.9%) ... where social living conditions are unfavourable</td>
</tr>
<tr>
<td></td>
<td>42 (24.4%) ... where social and material living conditions are unfavourable</td>
</tr>
</tbody>
</table>

Curriculum framework

<table>
<thead>
<tr>
<th>Curriculum framework</th>
<th>150 (82.9%) implementing Quebec’s curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>31 (17.1%) implementing a particular curriculum</td>
</tr>
</tbody>
</table>

Measures

<table>
<thead>
<tr>
<th>Variable</th>
<th>Instrument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of observation and planning practices</td>
<td>QEOPPS Cantin &amp; Lemire, 2016</td>
<td>A 30 minutes semi-structured interview. Verification of the presence and the content of documents that were reported. Refer to the scoring guide to attribute a quality level (low, middle or high) to the 8 items: 4 items on observation practices 4 items on planning practices Score the quality of observation practices and planning practices on a scale of 1 to 7. Subscales average into a total score.</td>
</tr>
<tr>
<td>Quality of interactions within the group</td>
<td>CLASS-Pre K Pianta, Hamre et La Paro, 2008</td>
<td>Domains: 1) Emotional Support, 2) Classroom Organization, 3) Instructional Support. Observation period of 2 hours. For each domain, scores range from 1 to 7. 11 items assessing whether the layout and furnishing of the classroom is welcoming, flexible, allow a diversity of activities and grouping, is appropriate to children's and ECE's needs, encourage children's autonomy, etc. From the number of features checked, each item are assign a score from 1 (minimum) to 4 (very good). Computation of the items mean gives the scale total score Completed under 30 minutes</td>
</tr>
<tr>
<td>Quality of the physical environement</td>
<td>EOOS Bourgon &amp; Lavallée, 2013</td>
<td></td>
</tr>
</tbody>
</table>
Procedures

- The 17 observers had six days of training and reliability certification tests.
- Child care centers were contacted to fix an observation day.
- On that day, three observers went to the centers and collected data in three groups. In order: (a) Quality of interactions; (b) Quality of the physical environment; (c) Quality of the observation and planning practices.
- A second observer was present in a group for 15% of the observations and interviews to calculate inter-rater reliability agreement.
- All ECEs were informed about the project and signed a consent form.

Descriptives statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation practices</td>
<td>181</td>
<td>4.91</td>
<td>1.365</td>
<td>1.00 - 7.00</td>
</tr>
<tr>
<td>Planning practices</td>
<td>181</td>
<td>4.33</td>
<td>1.312</td>
<td>1.00 - 7.00</td>
</tr>
<tr>
<td>Total QEOPPS score</td>
<td>181</td>
<td>4.62</td>
<td>1.182</td>
<td>1.00 - 7.00</td>
</tr>
</tbody>
</table>
Reliability

- **Inter-rater agreement**
  - The proportion of absolute agreement is **90.74%**.

- **Internal consistency**
  - The value of the Cronbach alpha of $\alpha = 0.72$ for the instrument is greater than the threshold of acceptable internal consistency (George & Mallery, 2003).

<table>
<thead>
<tr>
<th></th>
<th>Observation practices</th>
<th>Planning practices</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$F$</td>
<td>$p$</td>
</tr>
<tr>
<td>Type of child care centers</td>
<td><strong>14.264</strong>*</td>
<td>0.000</td>
</tr>
<tr>
<td>Material and Social deprivation indice</td>
<td>0.786</td>
<td>0.536</td>
</tr>
<tr>
<td>Curriculum framework</td>
<td>3.507</td>
<td>0.063</td>
</tr>
</tbody>
</table>

*Note: *$p < .05$, **$p < .01$, ***$p < .001$*
Concurrent validity

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. QEOPPS_Observation practices</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>2. QEOPPS_Planning practices</td>
<td>0.543***</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>3. CLASS_Emotional support</td>
<td>0.506***</td>
<td>0.424***</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>4. CLASS_Organisation</td>
<td>0.376***</td>
<td>0.321***</td>
<td>0.744***</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>5. CLASS_Instructional support</td>
<td>0.393***</td>
<td>0.449***</td>
<td>0.630***</td>
<td>0.498***</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>6. EQOS_Physical environment</td>
<td>0.454***</td>
<td>0.441***</td>
<td>0.530***</td>
<td>0.336***</td>
<td>0.379***</td>
<td>---</td>
</tr>
</tbody>
</table>

Note: *p < .05, ** p < .01, *** p < .001

Discussion - Implications for research

- The QEOPPS seems a reliable and valid scale to be used by researcher.
  - Reproduces differences base on type of center (Drouin et al., 2004; Lapointe & Gingras, 2015).
  - Differences in planning practices based on the curriculum implemented.
  - Seem possible to be use in a variety of settings.

- The scale could be useful to measure the quality of observation and planning practices increase the quality of interventions offer to children (Brunsek et al., 2017).
  - The QEOPPS correlated with the quality of interactions and of the physical environment without multicolinearity (Field, 2013).
  - Measures a complementary dimension of early childhood education quality.
  - Further work should explore the complex association of the QEOPPS with process quality and children’s development.
Discussion - Implications for practice

- **Priority!!!**
  - The quality of observation and planning practices is variable.
    - In 2004, among the lowest scores obtained (Drouin et al., 2004).
    - In 2015, remained of minimal-moderate quality (Gingras et al., 2015).
    - Our results, significant standards deviations and range covering all the points of the rating scale – even though we might have the “best” centers.
  - Hence, observation and planning appear to either be challenging for a lot of ECEs, or be practices that many of them are unaware of or unable to explain.
  - Observation and planning practices should be prioritize in initial and ongoing training to improve the quality of early childhood education.
  - The QEOPPS may offer relevant information to do so.

Conclusion

- The QEOPSS presents interesting properties.
- It could be useful to:
  - have a better understanding of the complexity between observation and planning practices, process quality and children’s development.
  - contribute to acknowledge the complexity of what ECEs are doing and support them in initial and ongoing training.
References

- Cantin, G., & Lemire, J. (2016). Quality of observation and planning practices (QEOPPS).