Measuring Task Orientation, Student Engagement, and Their Instructional Supports
Psychometric Properties of the Classroom Learning Activities Checklist (CLAC) in Pre-K and Kindergarten
Allyson Candee, PhD (cand0013@umn.edu) & Arthur Reynolds, PhD

Introduction

High-quality teacher-child interactions and classroom supports are key elements of program effectiveness (Gilliland et al., 2010; Mashburn et al., 2008). Classrooms that promote self-directed learning and student engagement foster children’s learning (Farran, Perry, & Mc Dermott, 2004).

Research Questions

1) What is the construct validity evidence of the CLAC?
2) What is the predictive validity evidence of the CLAC?

Methods

Students: Midwest Child-Parent Center (MPC) study participants (with comparison students) in Chicago, IL (Pre-K: n = 1166) & St. Paul, MN (K: n = 251). 71% African American, 86% Free Lunch Eligible, 52% female

Teachers: 50% Bachelor’s, 8 years teaching experience

Classrooms: 78 Pre-K & 90 K classrooms

Children present: PK: 14.6; K: 21.3; 79% language/literacy & 80% whole group observed

Measurements:

CLAC: Overall score, two factor scores.

Outcomes: Pre-K: Math, Literacy, Science, Social, Language, SEL, cognitive, overall using Teaching Strategies GOLD (Forno et al., 2010)

K oral language & benchmark text level (Mondo (Koral Language) & benchmark text level)

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Data

To date, no classroom measures specifically assess task orientation.

The Classroom Learning Activities Checklist (CLAC) is a P-3rd grade classroom observation measure that captures task orientation via classroom environments and instructional strategies.

Table 1: Linear Regression Models Predicting Year-End Learning with CLAC Variables

<table>
<thead>
<tr>
<th>Math</th>
<th>Pre-Kindergarten (n = 1558)</th>
<th>Coef.</th>
<th>SE</th>
<th>ES</th>
<th>Coef.</th>
<th>ES</th>
<th>Coef.</th>
<th>ES</th>
<th>Total Score</th>
<th>Coef.</th>
<th>SE</th>
<th>ES</th>
<th>Coef.</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Orientation</td>
<td>1.51***</td>
<td>.54</td>
<td>2.42*</td>
<td>.30</td>
<td>.60</td>
<td>.17</td>
<td>5.76</td>
<td>.20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructional Responsiveness (factor 1)</td>
<td>0.11**</td>
<td>.12</td>
<td>0.16*</td>
<td>.09</td>
<td>.04</td>
<td>.05</td>
<td>0.40</td>
<td>.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Engagement (factor 2)</td>
<td>0.18**</td>
<td>.11</td>
<td>0.31*</td>
<td>.10</td>
<td>.15*</td>
<td>.10</td>
<td>0.94*</td>
<td>.09</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Note: Model covariates include gender, race, ethnicity, special education status, age, free lunch eligibility and respective baseline learning. Standard error adjusted for classroom-level clusters (Pre-K = 52; Kindergarten = 9).

Results

Reliability: Pre-K and kindergarten year demonstrated high levels of internal consistency, Cohen’s α = 0.937 and α = 0.932, respectively.

Factor Analysis:

2-factor model emerged. In Pre-K, 51% of cumulative variance accounted for from first two factors (factor1 (41%); factor 2 (10%)). In Kindergarten analysis, factor 1 accounted for 42% and factor 2 12%.

Instructional Responsiveness (F1) Items

- Methods promote engagement
- Active participation
- Openness to active part.
- and engagement
- Individual attention to children
- Extra help is provided
- Responsiveness to work & behavior
- Lesson org. is conducive to task orientation
- Children are active participants
- Activities support engagement
- Activities support active part.
- Variety of activities
- Blend of child-initiated and teacher-directed
- Pace matches interests
- Time in lessons matches interest
- Children are engaged with materials
- Children share answers and thoughts

Student Engagement (F2) Items

- Children follow rules and directions
- Children appear engaged in activities
- Children appear to be working towards a learning objective
- Children's attention to lesson
- Misbehavior is a problem in this class
- Children are active participants
- Organization of lessons support task orientation
- Activities provided engage children
- Children demonstrate positive peer relations
- Time is lost due to child misbehavior

Discussion

CLAC demonstrates strong internal consistency and construct validity evidence and predicts specific student learning domains.

Future Directions

Further review of factor structure in 1-3rd grades.

Examine observation circumstances (moderator/ generalizability analyses): across times of day, content, groupings, oh. length.

Study stability of quality across P-3

Investigate longitudinal impact of quality on specific student outcomes.

Practice Implications

Informing practice via progress monitoring, assessing intervention/ curricular impacts.

Design classroom strategies to promote task orientation via professional development.

Acknowledgements

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National Institute Development (NICHD; R01HD084394)
<table>
<thead>
<tr>
<th></th>
<th>Pre-Kindergarten</th>
<th>Kindergarten</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Math</td>
<td>Literacy</td>
</tr>
<tr>
<td>Overall Task Orientation</td>
<td>1.41**</td>
<td>0.10</td>
</tr>
<tr>
<td>Factor 1: Instructional Responsiveness</td>
<td>0.18*</td>
<td>0.12</td>
</tr>
<tr>
<td>Factor 2: Student Engagement</td>
<td>0.22</td>
<td>0.06</td>
</tr>
</tbody>
</table>

Note. Model covariates include gender, race, ethnicity, special education status, age, free lunch eligibility and baseline learning. Standard error adjusted for classroom-level clusters (Pre-K = 43-50; Kindergarten = 9).
* p < .05, ** p < .01.
Table 1. Linear Regression Models Predicting Year-End Learning with CLAC Variables

<table>
<thead>
<tr>
<th></th>
<th>Pre-Kindergarten (n = 1358)</th>
<th>Kindergarten (n = 175)</th>
</tr>
</thead>
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<tr>
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Correlations among factor scores

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-K F1 &amp; F2</td>
<td>.45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K F1</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K F2</td>
<td>.35**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K F1 (using PK FA)</td>
<td>.87***</td>
<td>.66***</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>K F2 (using PK FA)</td>
<td>.95***</td>
<td>.21</td>
<td>.68***</td>
<td></td>
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<td>Overall Task</td>
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#### Student Engagement Items

- Children follow rules and directions
- Children appear engaged in activities
- Children appear to be working towards a learning objective
- Children’s attention to lesson is evident
- Misbehavior is a problem in this class
- Time is lost due to child misbehavior
- Children are active participants
- Organization of lessons support task orientation
- Activities provided consistently engage children
- Children demonstrate positive peer relations

#### Instructional Responsiveness Factor Items

- Teaching methods promote engagement
- Teaching methods promote active participation
- Teacher shows openness to to ac and engagement
- Individual attention to children
- Extra help is provided
- Responsiveness to children’s work and behavior
- Activities support engagement
- Activities support active part.
- Variety of activities
- Blend of child-initiated and teacher-directed
- Pace matches interests
- Time in lessons matches interest
- Children are engaged with materials
- Children share answers and thoughts
- Org. of lesson is conducive
- Children are active participants
- Activities provided consistently engage children
- Children demonstrate positive peer relations
- Time is lost due to child misbehavior