Study Purpose
This descriptive study explores the transition matrix model as a measure of student growth for SWSCDs. Although this model holds promise for implementation with AA-AAS, there are several challenges that states must address during implementation, leading to the following research questions focusing on their feasibility:

1. Is the transition matrix model a feasible method for including SWSCDs who participate in AA-AAS in growth models for AYP calculations?
2. What are the significant challenges faced in implementing such a growth model?

Background
Students with significant cognitive disabilities (SWSCDs) are difficult to include in statewide accountability growth models and annual year-end (AYP) determinations due to several measurement and data system obstacles, including data system integrity, missing data, student mobility, student attrition, grade level floor, and scaling. Current thinking suggests that implementation of transition matrix growth model approaches for alternate assessments based on alternate achievement standards (AA-AAS) may be the only possible growth model approach for the states (Tindal, Schulte, Elliott, & Stevens, 2011). Even challenges to group homogeneity exist (Farley, Savin, Nese, & Tindal, 2015).

Materials and Methods
This descriptive study was conducted using statewide data from the Oregon AA-AAS for SWSCDs from ODE for the 2009-2010 and 2010-2011 school years. This study used data from the reading assessment for students in grades 3-8.

Setting and Participants
The total sample included 7,181 SWSCDs who took the Oregon AA-AAS for Reading in either school year 2009-10 or 2010-11. The analytic sample includes only 3,470 students who took the test in both academic years. 3,430 of whom advanced to the next grade, and 40 who were retained in the same grade. Retained students were not included as part of the cohort.

Analyses
The four categories in the matrix include: Does Not Yet Meet, Nearly Meets, Meets, Exceeds. Students were given a +1 for improving one performance level and a -1 for falling one performance level. For example, if one student went from Does Not Yet Meet to Exceeds, they rose three categories, yielding a +3. These individual results were summarized at the state level and crosstabulated by grade:

Results
AYP+1 ratings were calculated by multiplying the number of levels gained by +1 pt and the number of levels lost by -1 pt. Sums reflect categorical trends. For example, in the Nearly Meets level, Grade 6, there were (6-1) or +5 students who moved down one level from Nearly Meets to Does Not Yet Meet, (22%) students who remained at Nearly Meets, and (45%) students who moved up to Meets from Nearly Meets, and (8%) students who moved from Nearly Meets to Exceeds. Summing these totals, 6 + 0 + 45 + 16, equals the AYP+1 rating for that category of 55.

2009-10 Transition to 2010-11 School Year:
Proficiency level shifts for Grades 6 & 8

Within Group Trends
The underlying assumption when establishing growth models is that you need to compare the exact same students at two points in time. What if there are criterion indicators that demonstrate that the groups, even though composed of the exact same students, are shifting in important ways?

Trends in Disability Category Shifts

<table>
<thead>
<tr>
<th>Disability Category</th>
<th>Change in Proficiency Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectual Disability (ID)</td>
<td>9</td>
</tr>
<tr>
<td>Communication Disorder (CO)</td>
<td>10</td>
</tr>
<tr>
<td>Autism Spectrum Disorder</td>
<td>10</td>
</tr>
<tr>
<td>Severe Learning Disability (SLD)</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
</tr>
</tbody>
</table>

With all other students within disability categories as well.

Conclusion / Future Directions
The primary conclusions are that meaningful growth models for SWCDs require:

- Improved standard setting or replaced it with a statistical methodology
- developed statistical scaling and distribution correction techniques that allow for cross-test comparisons,
- developed, maintained, and increased data system integrity,
- accounted for attrition/missing values (reference group) in a justifiable manner,
- accounted for grade level and disability category fluctuations,
- defined how much growth is sufficient (particularly at the school level) and,
- ensured that the growth model approach selected is consistent with the state's overall conceptual and practical assessment model (e.g., how the model fits within the general assessment approach).

Funding Source
We are grateful for the support we have received for this project from the Oregon Department of Education (ODE) in the form of a state IDEA grant. We are also indebted to the work completed by the Federal National Center on Assessment and Accountability in Special Education (NCIAASE) grant R324C110004. However, all opinions are exclusively those of the authors and do not convey ODE/NCIAASE endorsement of any kind.

For further information
Please contact juning@uoregon.edu. More information on this and related projects can be obtained at http://brt.uoregon.edu.