Creating Access to the General Curriculum with Links to Grade Level Content for Students with Significant Cognitive Disabilities

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OSEP Subcontract of NAAC

- Based on the current work of the National Alternate Assessment Center www.naacpartners.org @ UNC Charlotte (#H324U040001)

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Overview of Presentation

- Criteria for access through grade level content or transformed content standards, alternate assessment, and classroom instruction with state examples

- Symbolic levels of communication and example of working state standard to create access for all students

- Summary and questions

Access to the General Curriculum

- **General Curriculum broadly means…**
  - Overall educational program and experiences students have in school
- **For students with disabilities this translates into…**
  - Inclusive education

- **General Curriculum specifically means…**
  - Content of learning
  - Defined by state content standards for the grade level
- **For students with disabilities this translates into…**
  - Grade appropriate academic content instruction in whatever setting student is currently receiving services

Why Access to General Curriculum?

- **Legal precedent**
  - IDEA
  - No Child Left Behind
- **No research to support idea that functional skills are prerequisite to academic learning**
  - Some students who do poorly in life skills instruction may do well in academic learning
- **Increased educational opportunity**
  - Potential unknown for students who have had little instruction in this content

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Alternate Assessment based on Alternate Achievement Standards

- Alternate achievement standards for students with significant cognitive disabilities
  - Aligned with state's academic content standards
  - Promote access to the general curriculum
  - Reflect highest achievement standards possible
    - USDOE, Federal Register, December 9, 2003

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Alternate assessments

- "should be clearly related to grade-level content, although it may be restricted in scope or complexity or take the form of introductory or prerequisite skills"
  - USDOE, Nonregulatory Guidance, August 12, 2005.

Our Proposed Definition

- **Definition of the Concept: Linking to Grade Level Content with Alternate Achievement**

- To be linked to grade level standards, the target for achievement must be academic content (e.g., reading, math, science) that is referenced to the student's assigned grade based on chronological age. Functional activities and materials may be used to promote understanding, but the target skills for student achievement are academically-focused. Some prioritization of the content will occur in setting this expectation, but it should reflect the major domains of the curricular area (e.g., strands of math) and have fidelity with this content and how it is typically taught in general education. The alternate expectation for achievement may focus on prerequisite skills or some partial attainment of the grade level, but students should still have the opportunity to meet high expectations, to demonstrate a range of depth of knowledge, to achieve within their symbolic level, and to show growth across grade levels or grade bands.

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Part I: Criteria for Access and State Example of Alignment

- Adapted from: Browder, D., Wakeman, S., Flowers, C., Rickelman, R., Pugalee, D., & Karvonen, K. (In press). Creating access to the general curriculum with links to grade level content for students with significant cognitive disabilities. *Journal of Special Education.*

Criterion 1: The Content is Academic

Self check

- ✓ I am familiar with my state standards
- ✓ I know the major strands of math, science, language arts/ reading
- ✓ I collaborate with general education teachers

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Criterion 2- The student's assigned grade level is the point of reference

- ## Middle School (Grades (6-8)

- ## Literature of Focus: The *Cay by Theodore Taylor*

  - ### Students read chapters of book on grade level and

    - ○ make diagram (e.g., fishbone) of story events describing cause and effect with evidence.

    - ○ identify facts and opinions related to the characters

    - ○ write a narrative comparing Phillip's quality of life before and after the boat accident using evidence from the text.

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Criterion 3-The Achievement Level Differs from Grade Level

- Examples of Alternate Achievement for *The Cay*
  - Students hear chapter summaries read and participate using pictures, repeated story lines, and controlled vocabulary.
  - Students select pictures for fishbone diagram after hearing story.
  - Students use pictures to answer simple yes/no questions about characters in the story (e.g., Was Phillip a boy?)
  - Students compare events from their own life to events in Phillip's life in the story using a yes/no chart, and a Venn diagram.

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Criterion 4- Differentiation in achievement across grade levels/bands

- **Elementary**
  - Children's picture books provide support for comprehension
  - Stories have simpler themes and story lines
  - Answers can more often be found on the page (matching)

- **Middle School**
  - Chapter books; student follows along in own book
  - Books may have picture symbol supports; objects may still be used to support comprehension
  - Themes are more mature
  - More content from which to glean answer

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Criteria 5- Promote access to grade level activities, materials, contexts

- JAFTA – Thinking Map (by Bree Jimenez)

Criteria 6- Content centrality and when possible, performance centrality

- State Standard:
  - **Student will identify, analyze, and apply knowledge of the structure and elements of fiction**
- Content
  - Structure and elements of fiction
- Performance
  - Identify, analyze, and apply knowledge of

- *Camilla will use her AAC to greet peers in English class*
  - Content? No
  - Performance? No
- *Camilla will choose a fictional story*
  - Content? Yes?
  - Performance? Some
- *Camilla will use pictures to identify components of a fictional story*
  - Content? Yes?
  - Performance? Stronger link

Criteria 7- Multiple levels of access to general curriculum

- *Some students with significant disabilities rely on nonsymbolic communication or may have limited intentionality in communication; consideration needs to be given to expectations for these students*

Alignment Methodology

- Example of how the UNC Charlotte team applied the seven criteria to evaluate alignment of one state's alternate assessment

- The opinions expressed do not necessarily reflect the position or policy of the Department of Education, and no official endorsement should be inferred.

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Criterion 1: The Content is Academic

- Source: USDOE, 2005, p. 17
  - Functional life goals are not appropriate achievement measures for AYP purposes
- *Although most alignment methodologies begin with assumption the focus is on academic content, this cannot be assumed in alternate assessment due to the historical context for curricular priorities for this population.*
- What we consider- whether alternate assessment, any extended standards, classroom instruction/ professional development focus on academic content

STATE EXAMPLE:
Is it academic?

- **Are the AA items academic?**
  - Use national strands for content areas
  - Rating by content area experts

- **Reflected ELA (except research) and math**
- **93.4% AA items rated as academic (assigned to NCTM or NCTE national standards)**
  - 16 ELA items identified as not academic
  - All math items identified as academic

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STATE EXAMPLE:
Is it Academic?

- What is emphasis in the "transformed" standards used as basis for the alternate assessment?
  - Example from English/ Language Arts

- Reading (70%)
  - Comprehension (61.2%), Phonemic Awareness (20.4%), Vocabulary (18.4%), Phonics (0%), Fluency (0%)
- Writing (11%)
- Viewing/Visual (11%)
- Speaking (8%)
- Listening (7%)
- Research (0%)

STATE EXAMPLE:
Is it Academic?

- Are teachers being trained to teach/ assess academics?
  - Professional development material
  - Teacher responses on Curriculum Indicator Survey

- Materials and teaching does include academic focus
- All ten ELA; in reading-nothing on fluency
- All five NCTM strands were also represented

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Criterion 2- The student's assigned grade level is the point of reference

- Source- USDOE, 2005, p. 26
  - AA should be "clearly related to grade-level content, although it may be restricted in scope or complexity or take the form of introductory or prerequisite skills"
- *Although alignment studies of general assessment can focus on assessments by grade level, how "grade level" links are established in AA needs to be tracked due to historical practice of ungraded classes*
- What we consider-alignment with grade level/ grade band content

STATE EXAMPLE: Is the grade level used?

- How do transformed standards match with state standards for each grade band/ grade level?

- In this state, grade band was used

- Most addressed reading content standards (66% 3-5 and 75% 6-8) and numbers and operations (39% 3-5 and 37% 6-8)

- Better balance across standards in math

- No research content standard (ELA) addressed

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STATE EXAMPLE:
Is grade level used?

- How do AA items match to state standards for each grade level/ grade band?

- In this state, grade band was used

- Most addressed reading content standards (77% 3-5 and 80% 6-8) and numbers and operations (34% 3-5 and 31% 6-8)

- Better balance across standards in math

- No research content standard (ELA) addressed

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Criterion 3-The Achievement Level Differs from Grade Level

- USDOE, 2005, p. 16; 26-27
  - Alternate achievement expectations may reflect an expectation for learning a narrower range of content and content that is less complex while still challenging; may be prerequisite skills or those learned at earlier grade levels
- *The concept that students may learn some grade level content without grade level achievement is new for many educators*
- What we consider- DOK, balance, etc (Webb's criteria) expecting difference from general assessments alignment

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Is achievement different from grade level achievement?

- 11 ELA guidelines not aligned with intended content standards
- Categorical concurrence= .75 (met)
- DOK= TS & AA = positively skewed; GL content= negatively skewed (met)
  - 68.5% of AA items at TS level of cog demand (met)
- TS & AA emphasis-reading vs. reading&comm
- Balance of represent (TS & AA)= .87 (met)
- Range of knowledge= .75

- In other words, it is ALTERNATE vs. GL
  - The depth of knowledge is lower (intentional reduction in depth)
  - AA reflects TS standards (intentional reduction in breadth)

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Is achievement different from grade level?

- Do teachers know how to gauge instruction for alternate achievement vs. grade level achievement?

- Teaching at lower levels of cognitive demand

- But too low-teaching more at attention level than DOK of transformed standards

- SEC alignment index= .35

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Criterion 4- Differentiation in achievement across grade levels/bands

- Source- USDOE, 2005, p. 21
  - Achievement may focus on grade bands or grade levels

- *Defining outcomes for growth across grades is typical for academic content, but different than the "catalog" approach often used in functional life skills curricula*

- What we consider- how grade band/level distinctions are made; or whether expectations for growth across grades is evident in other ways

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Changing expectations across grade levels/ grade bands?

- How does the AA reflect changing expectations across grade levels/ grade bands?
  - Example is a state with one AA for all grades but that has increasing difficulty

- Significant difference between the 3 booklets on DOK

- Difference between booklets and national strands (reading = higher books, listening = lower books; probability = higher books, geometry = lower books)

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Additional Criteria

- **Criteria 1-4**
  - We studied USDOE Nonregulatory Guidance, August, 2005

- **Criteria 5-7**
  - Based on unique characteristics of this population

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Criteria 5- Promoting access to grade level activities, materials, contexts

- Source-concept of age appropriate partial participation extended to grade appropriate alternate achievement

- *The difference between young student and older student with SCD is in the application of early academic skills to be age and grade appropriate*

- <u>What we consider</u>- overall extent to which access to general curriculum is promoted (e.g., whether materials, tasks are age/grade appropriate; do they include adaptations of grade level activities/ materials; does training include examples of use in inclusive settings)

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Is there a focus on grade appropriate materials & activities?

- **All alternate assessment items were found to be age appropriate for either elementary or older students**
- The professional development manual did not illustrate how to take a grade level activity/material and adapt it for students with significant cognitive disabilities.
- Teachers primarily reported adapting materials from the PreK-2 grade band.

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Criteria 6- Content centrality and when possible, performance centrality

- Sources- Achieve model of alignment; NAAC resources on "Is it plumb?/ is it square?"/ categories of knowledge

- *One of the most difficult challenges is selecting tasks for assessment and instruction that have fidelity with the original state standard*

- <u>What we consider</u>- content centrality; performance centrality; teacher training in near/ far alignment

STATE EXAMPLE:
ELA Transformed Standards

- Most of the ELA transformed standards were aligned with 3rd and 6th grade content standards

Content Centrality	3rd	4th	5th	6th	7th	8th
Far Link	5	0	0	3	0	2
Near Link	35	12	9	23	1	4

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STATE EXAMPLE:
Content and Performance
continued

- AA clearly aligned to transformed standards (89%)

- Most of the ELA items (73.5%) had a similar performance level as stated in the transformed standards and 25% of the ELA items had at least some of the performance level stated in the transformed standards

- Two hundred and six items had the same performance level as the math transformed standards with only 10 items having only some of the same performance level.

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Additional Point: We think…

- Content centrality is goal for all interpretations of standards; and all AA items

- Performance centrality is "ideal" but may not always possible as depth of knowledge is lowered for alternate achievement

Criteria 7- Multiple levels of access to general curriculum

- Source- Symbolic levels described in communication research; our own work on accessing curriculum by student's symbolic level; DOE regulations permit multiple alternate achievement standards (December 9, 2003)

- *Some students with significant disabilities rely on nonsymbolic communication or may have limited intentionality in communication; consideration needs to be given to expectations for these students*

- <u>What we consider</u>- symbolic level of tasks in alternate assessment and examples given in training materials

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Symbolic levels

- Awareness, Presymbolic, Early Symbolic, and Symbolic

- Majority of the items were symbolic-73.6% for ELA and 69.0% for Math

- Assessment included items for students at all symbolic levels

- Examples in professional development manual were included that could be accessed by students at all symbolic levels

Part II:
Research on Symbolic Levels

- Adapted from:
  - Browder, D., Wakeman, S., & Flowers, C. (2006). *Level of symbolic communication classification for students with significant cognitive disabilities*. Manuscript submitted for publication.

Symbolic Levels of Communication Research

- NCLB (2002) required states to establish challenging standards and implement assessments that measure students' performance against those standards, and be accountable for achievement

- Title 1 regulation on alternate achievement standards (Federal Register, December 9, 2003) made it possible for school systems to count up to 1% of students with significant cognitive disabilities as proficient in computing adequate yearly progress

Alternate Achievement Standards

- Regulations permitted states to develop alternate achievement standards for reporting AYP

- Must be aligned with state's academic standards

- Must promote access to the general curriculum

- Must reflect high achievement standards

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State Options

- Establish multiple sets of alternate achievement standards
- Multiple entry points for the alternate assessment system

Little research about establishing these entry points!

- Only a few states exploring this option but this number is growing
  - Pennsylvania: established 3 levels of difficulty based on student performance with the assessed content areas differing by grade level
  - North Carolina: use a decision tree to classify students. Based on that classification, teachers will receive appropriate tasks for students.

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Establishing Entry Points also an Instructional Challenge

- Teachers may wonder how to adapt recommendations to students' varying abilities. For example, one student may be able to read sight words and use a wide variety of pictures to show understanding, while another may have no reading or picture recognition skills.

- One of the frustrations teachers encounter in current requirements for students to have access to general curriculum content is that professional development materials and assessment protocols may be biased towards students with abstract, or at least concrete, symbolic use.

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Research on symbolic levels

- Student's symbolic level has been used for educational planning as early as the work of Piaget (1952).

- Rowland and Schweigert (1990) described three levels of communication for students with severe disabilities: a) pre-symbolic (e.g., primitive and conventional gestures), b) concrete symbolic (e.g., symbolic gestures, tangible symbols, objects, and pictures), and c) abstract symbolic (e.g., speech, sign language, printed language, Braille, abstract shapes, and abstract graphics).

- Siegel and Wetherby (2006) described how individuals with severe disabilities communicate symbolically or nonsymbolically.

Research cont.

- Symbol use can build communication skills (Dyches,1998; Kozleski, 1991)

- And academic learning (Coleman-Martin, Heller, Cihak, & Irvine, 2005; Heller, Fredrick, Tumlin, & Brineman, 2002)

Intentionality

- But not all students acquire symbol use (Sigafoos and Dempsey,1992; Siegel-Causey and Guess,1988)

- Wetherby and Prizant (1989) defined intentionality as "the deliberate pursuit of a goal"

- Dunst and Lowe (1986) differentiated between pre-intentional and intentional communicative behaviors by the level of indication by the person (e.g., alerting a partner versus indicating a need).

Purpose

- The purpose of this study was to evaluate a classification schema based on symbolic level using examples of how a student might respond to academic instruction.

- In turn if validated, these levels may offer a potential method for pinpointing or create entry points to provide appropriate access the general curriculum for students with significant disabilities that participate in an alternate assessment

Method- Participants

- A purposeful sample of 95 teachers

- Teachers of students with a variety of disabilities (severe/profound, autistic, trainable mental disabilities, etc.) were identified and invited to participate.

- All participants had to teach students who participated in an alternate assessment based on alternate achievement standards within the past year.

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Method- Design & Instrumentation

- 3 part survey [(a) student demographics, (b) a survey of academic responses, and (c) teacher selection of the student's symbolic level]
- 5 pages
- consisted of closed-ended questions
- approximately 10 minutes to complete

Method- Instrumentation

- Section 2: Teachers were instructed to think about the characteristics of their lowest functioning student- read 10 academic tasks and selected one response from four options that best represented the current performance level of their student.

- After the participant rated their lowest functioning student, they were instructed to think about their highest functioning student and respond to the same tasks.

Method- Instrumentation cont.

- The specific academic tasks were activities frequently observed in classrooms, such as name writing, counting, and number recognition.

- The four response options for each academic task were created to correspond to the four hypothesized levels of symbolic use. The response options were arranged in order according to the symbolic level; that is, (1) awareness, (2) pre-symbolic, (3) early symbolic, and (4) symbolic

Symbolic levels

- **Awareness**: May communicate by crying, vocalizing; communication may be difficult to interpret; no clear cause and effect

- **Pre-symbolic**: Communicates with gestures, eye gaze, purposeful moving to object, sounds; communication is purposeful (e.g., holds up cup for drink)

- **Early Symbolic (Concrete)**: Beginning to use pictures or other symbols to communicate within a limited vocabulary; primarily concrete symbols (e.g., eat, drink, outside, play, more)

- **Symbolic (Abstract)**: Uses vocabulary of signs, pictures, words to communicate. Recognizes some sight words, numbers, etc. Some symbols are abstract (e.g., yesterday, happy, 9:00)

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Method- Instrumentation cont.

- Two experts of students with severe disabilities symbolic use reviewed the academic tasks and response options and agreed that the response options were consistent with the symbolic level.

- The reliability coefficient for the 10 tasks was .97.

Method- Instrumentation cont.

- Final section: Participants were provided the characteristics of the four symbolic levels and asked to categorize their lowest and highest functioning student into the category that best fit the student.

- Participants had an option of selecting "no category" if the student did not fit into one of the four symbolic levels.

- The teacher rating of student's symbolic level was used to validate the clusters formed in the cluster analysis.

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Method- Data Analyses

- Cluster analysis and descriptive statistics
- Cluster analysis was used to form clusters or groups of relatively homogenous students based on measures of similarity and/or differences with respect to the 10 academic tasks (Hierarchical cluster analysis using large proximity coefficients; percentage of agreement and kappa coefficient; ANOVA)
- Hypothesized →four clusters solution

Results

- ## Total of 189 student ratings

	Awareness	Pre-symbolic	Early Symbolic	Symbolic		
	%	%	%	%	*M*	*SD*
Name Writing	15.1	22.6	13.4	48.9	2.95	1.15
Picture Recognition	7.5	14.0	21.5	57.0	3.28	0.97
Pictures to Communicate	10.8	17.7	16.1	55.4	3.15	1.07
Counting	26.3	5.4	10.2	58.1	3.01	1.30
Number Recognition	24.2	11.3	6.5	58.1	2.99	1.29
Story Comprehension	15.1	21.0	24.2	39.8	2.88	1.10
Expressive Communication	15.1	25.8	5.9	53.2	2.98	1.18
Categorization	15.1	10.8	30.1	44.1	3.03	1.08
Money	37.1	16.7	22.6	23.7	2.33	1.20
Calendar	26.3	15.1	26.3	32.3	2.65	1.19
Mean Percentage	*19.3*	*16.0*	*17.7*	*47.1*		
Teacher Rating of Student	4.8	21.5	18.8	54.8		

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Results cont.

- ANOVA= statistically significant differences ($p < .001$) among the clusters

- Scheffé post hoc analysis- not a statistically significant difference between the awareness level and the pre-symbolic level ($p = .42$); there were mean differences for all other comparisons ($p < .001$).

- Sharp increases in proximity coefficients were noted at the four, three, and two clusters solution

- The three clusters had an overall agreement of 90% with a kappa coefficient of .75 with the teachers ratings (awareness and pre-symbolic were collapsed into one category).

Figure 1. Means for the 10 academic tasks by teachers' ratings based on four levels of symbolic communication.
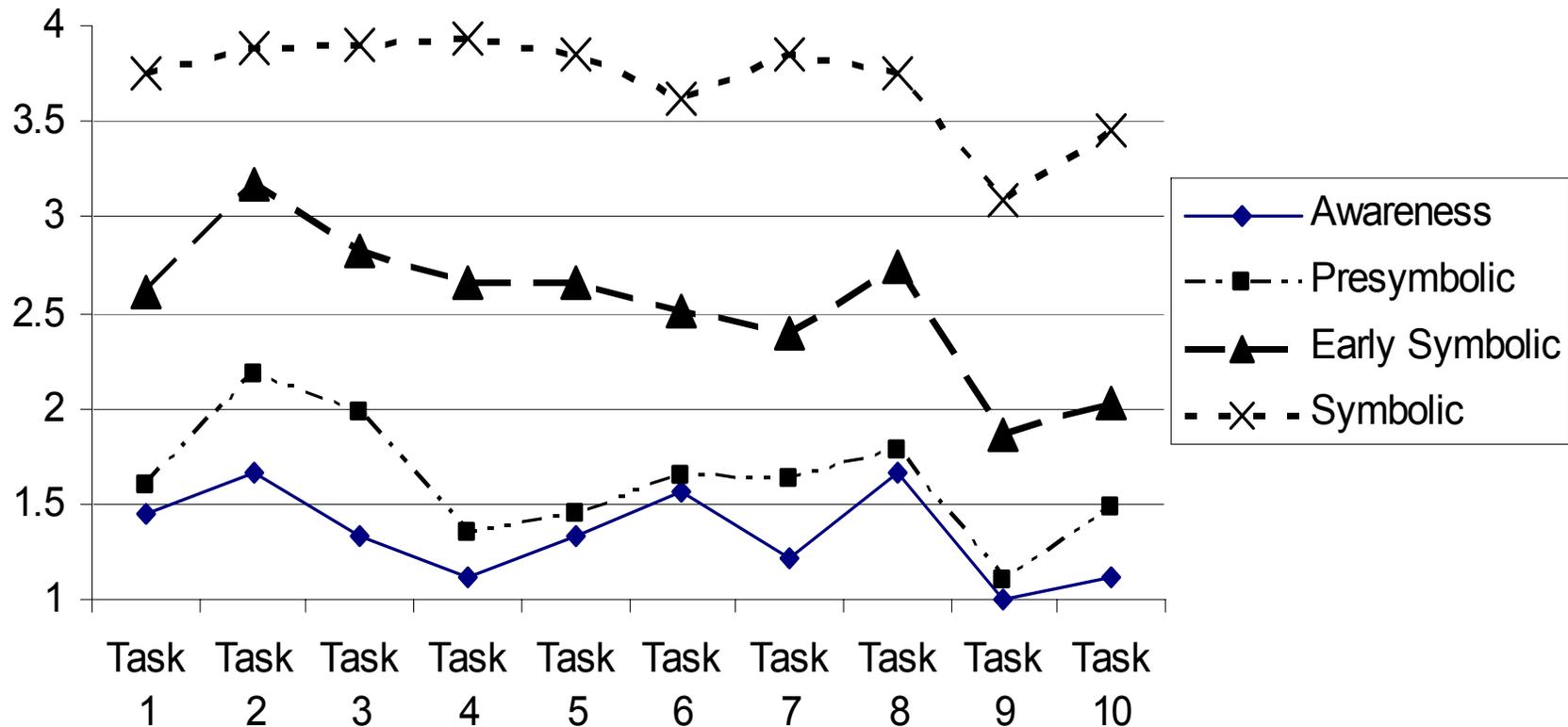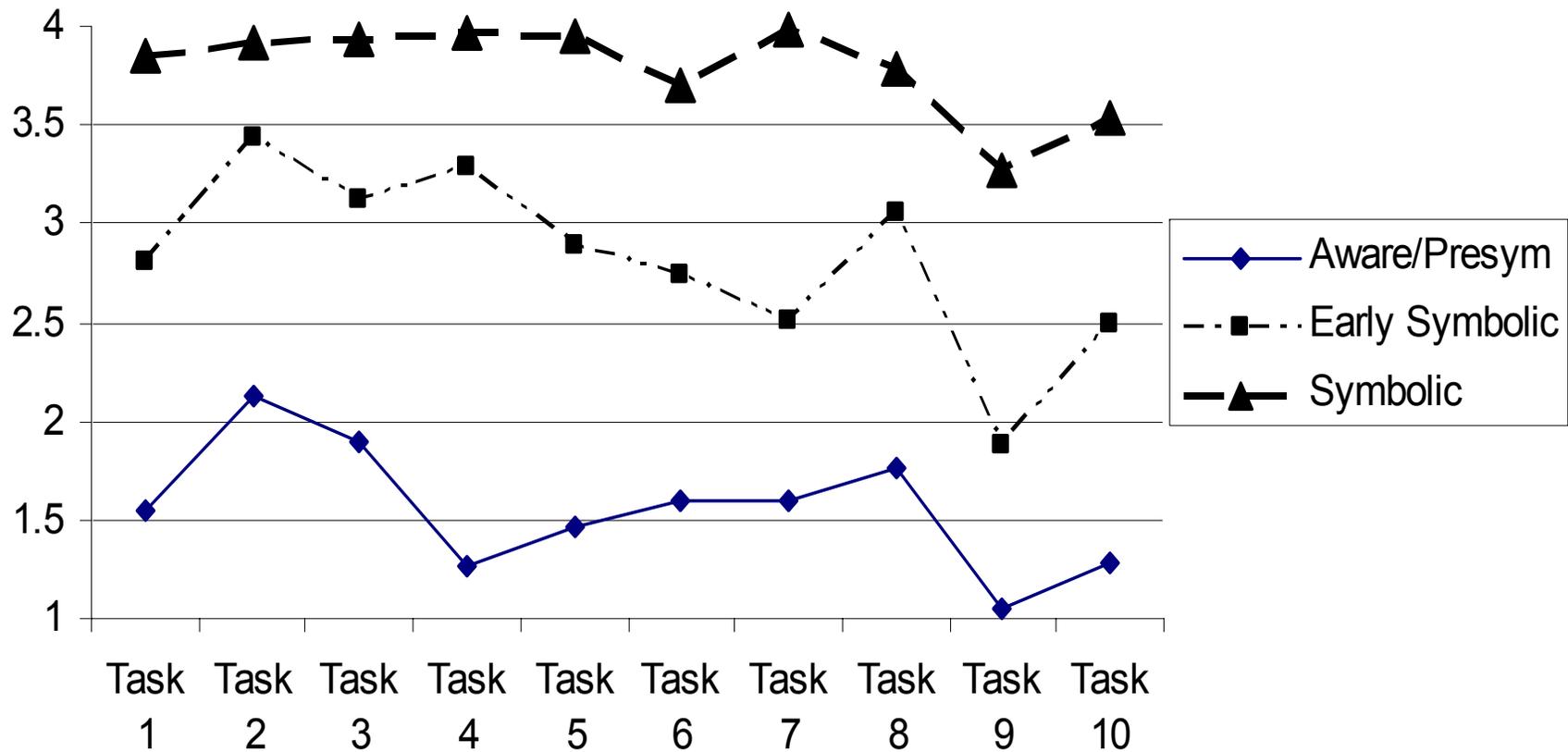
Figure 2. Means for the 10 academic tasks by teachers' ratings based on the three clusters solution.

Discussion

- The symbolic (abstract), early symbolic (concrete), and two lower levels (pre-symbolic/awareness) formed clear differences as clusters.

- 92% teachers were able to classify their students by symbolic level

- Support was found that this population can be classified by symbolic level for purposes of academic planning

Additional Research

- If teacher ratings concur with observed performance for this population's academic performance

- Whether the number of respondents in each level of symbolic use is representative of the population of students who take alternate assessments

- Results if include teachers in a residential or hospital setting or who provide homebound instruction in sample

Recommendations for Practice

- Professional development resources could be developed illustrating how to plan for students at these various levels of symbol use

- States may develop differential expectations for achievement on alternate assessments to reach all students (e.g., opportunity to demonstrate their highest level of achievement so expectations are not set too low)

- * Caution- Understanding that students' level of symbol use is not static

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Summary

- Students with lower levels of communication competence also need the opportunity to access academic content and demonstrate learning.

- This classification system should be viewed as dynamic with students having the potential to move into higher levels of symbol use with instruction.

- Knowing a student's current level of symbol use may be helpful in creating ways for students to access academic content and show achievement.

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Part III. A Teaching Example

- A grade level standard in science for three symbolic levels
  - Abstract Symbolic (expanded)
  - Concrete Symbolic (early)
  - Presymbolic
- "Work it across" to adapt from standard to presymbolic

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