

Linking to Grade Level Content Standards for Students with Significant Cognitive Disabilities

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ASES-SCAAS Meeting

What is the Challenge?

- Creating a link between AA, instruction, and state academic content standards
 - Why it's a challenge: 25 year tradition of focusing on separate functional curriculum, not academics for this population
 - Resulting in lack of research, models, shared understanding of what the construct means

Who is Concerned about the Link?

- SEA....is our AA valid? Aligned? What do teachers need to teach/assess this?
- Test designer...what is the construct for the test blueprint? What criteria for item development?
- Teacher....What am I to teach? How? How do I conduct this assessment?
- Parent....Will this meet my child's needs? What does the score mean?
- Higher ed...Where's the research? Does this change the focus of our teacher training?
- Everyone..Is it meaningful/ important for this student's current and future needs?

What We Think About the Link

- Most stakeholders seem to agree..
 - We do not want to forsake the teaching of functional skills; this has worked & we know how to do it
 - NCLB requires that we assess academic content
 - We are not happy with our current AA
 - We are going to need some new resources for teachers
- Where the disagreement occurs...
 - Do all skills have to be embedded in a daily routine/functional?
 - Can we really teach reading, math, and science to this population?
 - Is there such a thing as aligning/linking to grade level when a student's instructional level is much, much lower?
 - Should we change federal policy to focus on AYP in functional skills for this population?

The Answers ☺

- We do not know if we can teach academics to this population until we try; we have emerging evidence from teachers/ students we need to capture in our research
- We have to give ourselves permission to teach some skills that build understanding; not every skill will be usable at Walmart today
- We can align with grade level content if we use the concepts of age appropriate and partial participation used before for CBI; but we need to do deeper thinking about this concept

Four Questions to Answer in Understanding the Link

- ❑ What does federal policy say about the link?
- ❑ What is reading, math, and science for this population and is there any research on how students acquire these skills?
- ❑ What is alignment? What are the criteria typically proposed for alignment?
- ❑ What additional or alternative criteria may be needed for this population?
- ❑ How can the criteria be applied by various stakeholders?

Guidance for Alignment

- Summary of information from Department of Education

Two Types of Standards

□ Academic Achievement Standards

- Capture the range of content
 - Measure content and process
 - Degree and pattern of emphasis
 - Reflect the full range of cognitive complexity
 - Representative of achievement levels as defined by challenging, coherent, rigorous content standards
- Peer Review Guidance, April 2004, p. 14, 41

□ Academic Content Standards

- Define what students are expected to know and be able to do
 - Contain coherent and rigorous content
 - Encourage teaching of higher order skills
 - Must be grade specific or may cover more than one grade if grade-level content expectations are provided for each of grades 3-8
- Peer Review Guidance, April 2004, p. 2

Options for Participation in Current Federal Regulations: Option of the General Assessment

Assessment Option	Foundation for Content	How Performance is Evaluated	Who Can Participate	Caps on Using for AYP
General Assessment	State's academic content standards	Grade level achievement standards	Open to all students including any student with a disability	None
General Assessment with Accommodations	State's academic content standards	Grade level achievement standards	Any student with a disability	None

Option of Alternate Assessments: Type 1- Grade Level Achievement

Assessment Option	Foundation for Content	How Performance is Evaluated	Who Can Participate	Caps on Using for AYP
Alternate Assessment Judged Against Grade Level Achievement Standards	State's academic content standards	Grade level achievement standards	Any student with a disability	None

Option of Alternate Assessments: Type 2- Modified Achievement

Assessment Option	Foundation for Content	How Performance is Evaluated	Who Can Participate	Caps on Using for AYP
Alternate Assessment Judged Against Modified Achievement Standards	State's academic content standards	Modified achievement standards	Students with a disability who have persistent academic difficulties	2% can be counted as proficient for AYP; no limit on participation

Option of Alternate Assessment: Type 3- Alternate Achievement

Assessment Option	Foundation for Content	How Performance is Evaluated	Who Can Participate	Caps on Using for AYP
Alternate Assessment a Judged Against Alternate Achievement Standards	State's academic content standards	Alternate achievement standards	Students with significant cognitive disabilities	1% can be counted as proficient for AYP; no limit on participation

Alternate Achievement Standards Aligned with State's Academic Content Standards

- Setting alternate achievement standards occurs after....
 - Consider content to be assessed
 - Manner in which student understanding of content will be demonstrated
 - Method for scoring student responses/products
 - Manner in which scores will be reported
 - Non-regulatory guidance, August 2005, p. 26

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- Begin with content on which students will be assessed
 - “This 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.”
 - Begin with State’s academic content standards for the grade in which the student is enrolled, then adapt or “extend” these content standards
 - Nonregulatory Guidance, August 2005, p. 26

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Alternate Academic Achievement Standards

- Alternate academic achievement standards
 - Are aligned with state's academic content standards
 - Promote access to the general curriculum
 - Reflect professional judgment of the highest achievement standards possible
 - Federal Register, December 9, 2003, 200.1 (d)

□ To align

- Define clearly the connection between the instructional content appropriate for non-disabled students and related knowledge and skills for students with SCD
 - E.g., curriculum framework
 - p. 27 Nonregulatory Guidance, August 2005

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The Alignment Test

- Can include prerequisite or enabling skills that are part of a continuum leading to grade level proficiency
- Cannot result in inappropriate placement or assignment of students to curriculum that does not include academic content
 - P. 27, Nonregulatory Guidance, August, 2005

What about Grade Levels?

□ Must

- Align with State's academic content standards for the grade in which the student is enrolled (or commensurate with age if ungraded)
- Show growth that links to content across grades
 - P. 21 Nonregulatory Guidance, August 2005

□ Flexibility

- Not expected to show the same clearly defined complexity as grade-level achievement
- Can define alternate achievement standards for grade clusters
 - P. 21
- Can use out-of-level assessments for 1%
 - P. 18
 - How will meet alignment test?

What Does Not Align

- Single test with single rubric for all grades 3-12
 - Because it fails to reflect content expected across grades and challenge older students
 - p. 21, Nonregulatory Guidance, August 2005
- Progress on IEP goals or assessment of functional life skills
 - p. 17, Nonregulatory Guidance, August 2005

What Is Reading, Math, and Science for this Population?

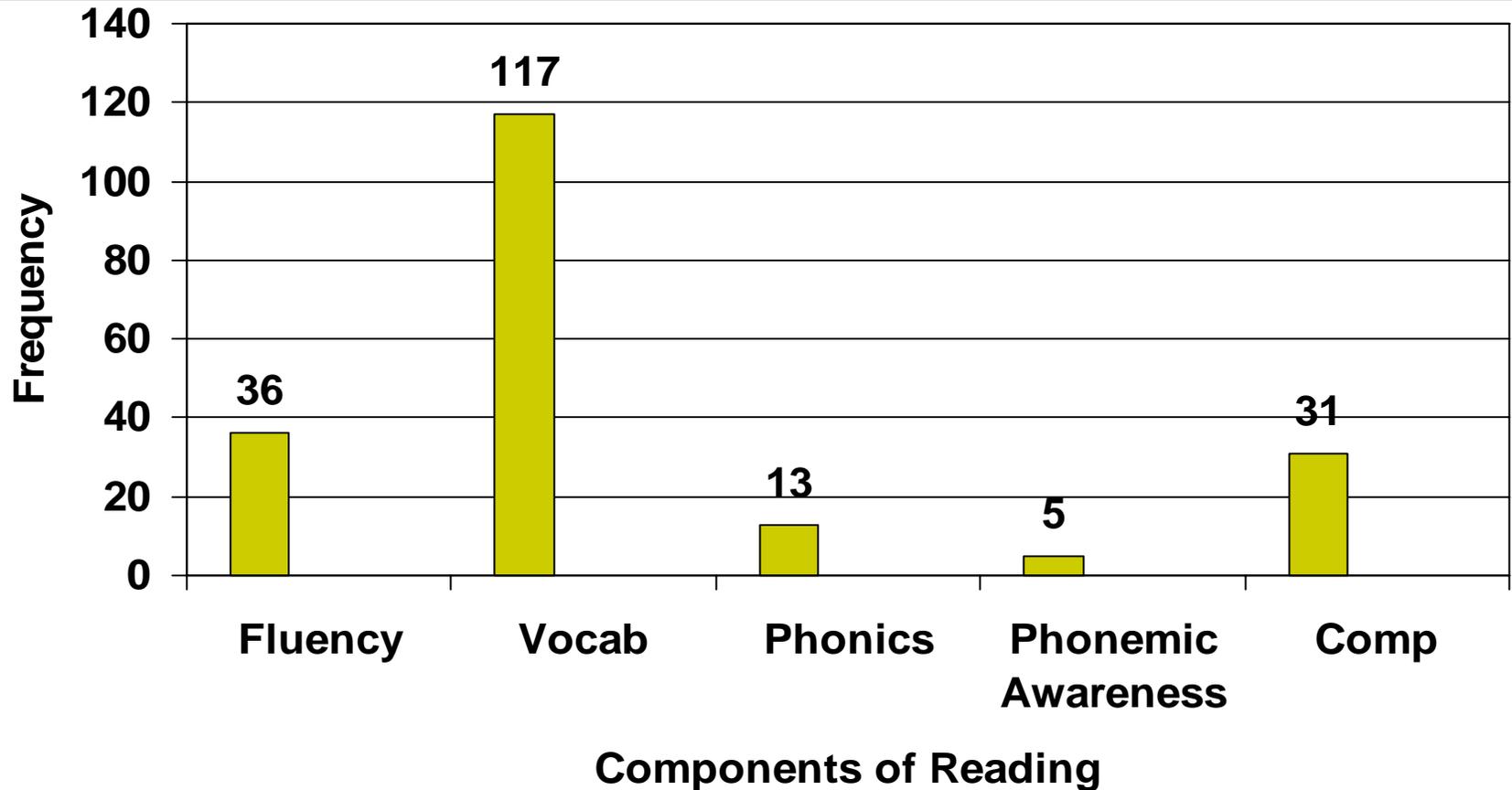
- How we figured out age appropriate life skills
 - Consider Ss age
 - Identify life domain (e.g., community)
 - What do typical peers this age do in this domain?
 - How can we make these same activities accessible for Ss with sig disabilities?
 - For those with more significant disabilities, what meaningful partial participation can we teach?
- Using the same strategy for academic learning
 - Consider the Ss grade level (comparable by age)
 - Identify the academic domains and components of these (standards)
 - Consider what activities typical peers do to learn these standards
 - Make these activities accessible for this population
 - For those with more sig disabilities, identify meaningful partial participation

Consider the Domains and Their Components

- UNC Charlotte's comprehensive literature reviews of reading, math, science
- Organized literature by components identified by professional consensus for these fields (national focus; if state would use standards)

Literature Review Categories for Reading

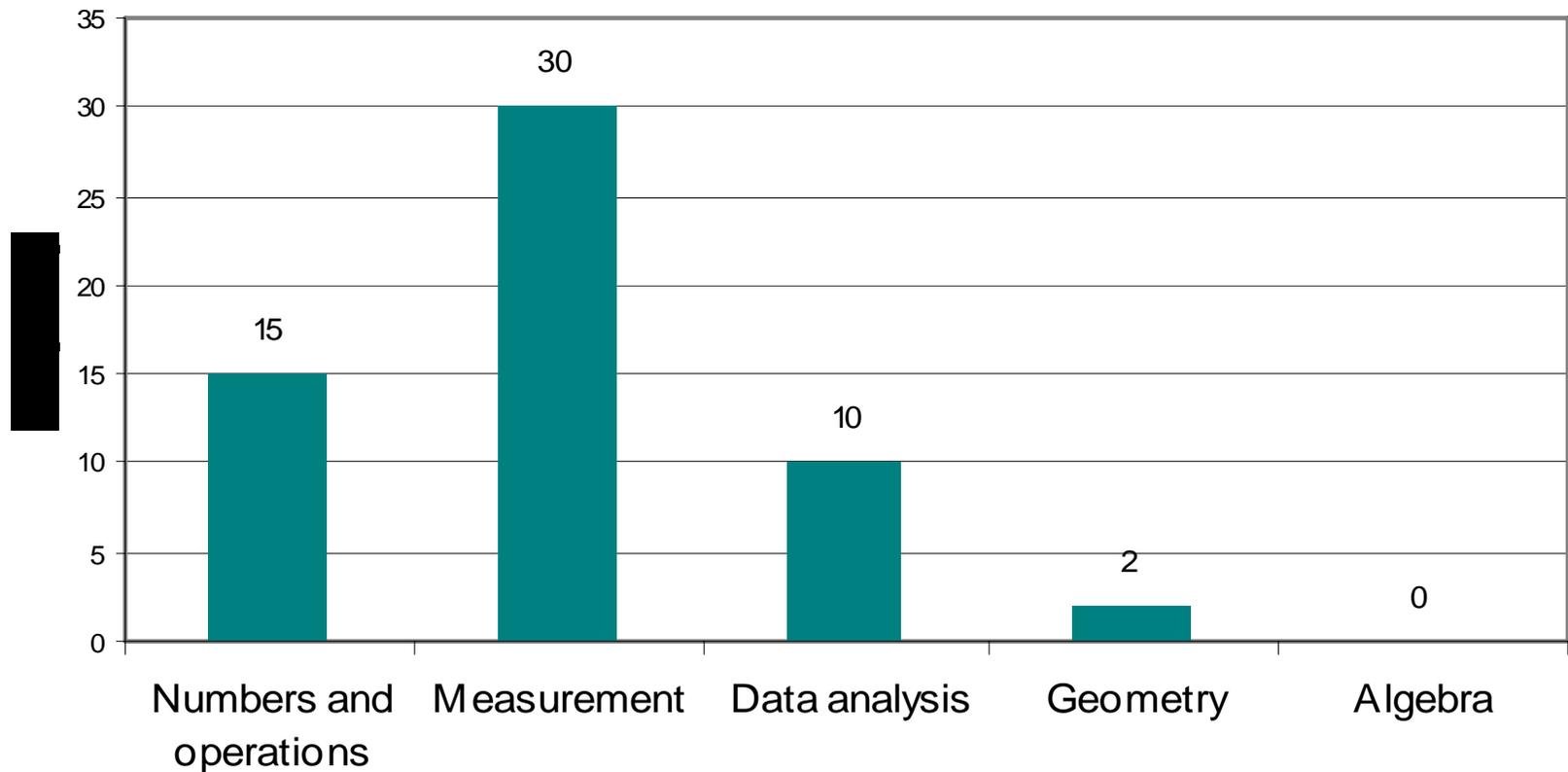
128 experiments (119 articles)



* Categories are not mutually exclusive

Literature Review Categories for Math

55 experiments (53 articles)

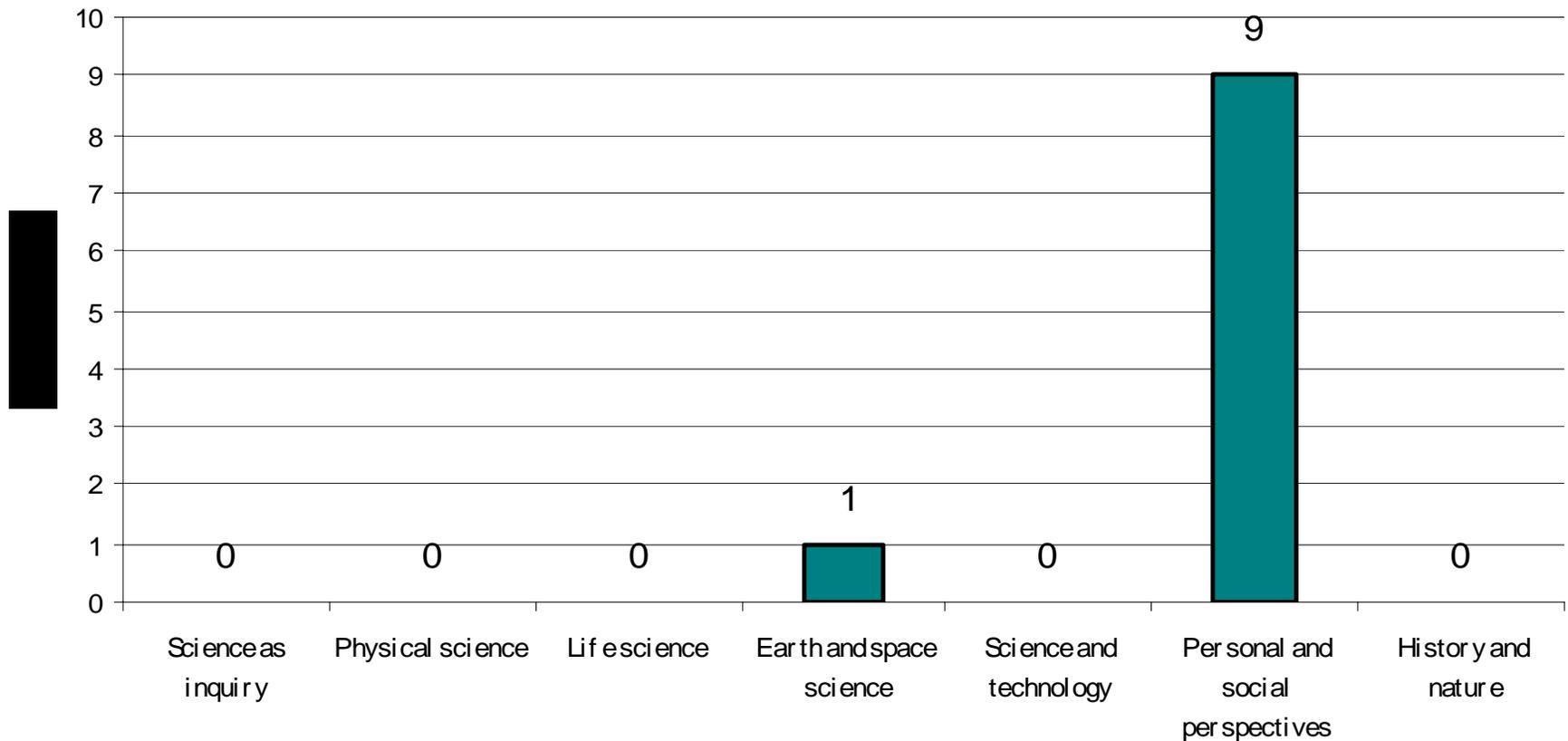


Components for Math

* categories are not mutually exclusive

Literature Review for Science

10 articles, 10 studies



Components of science



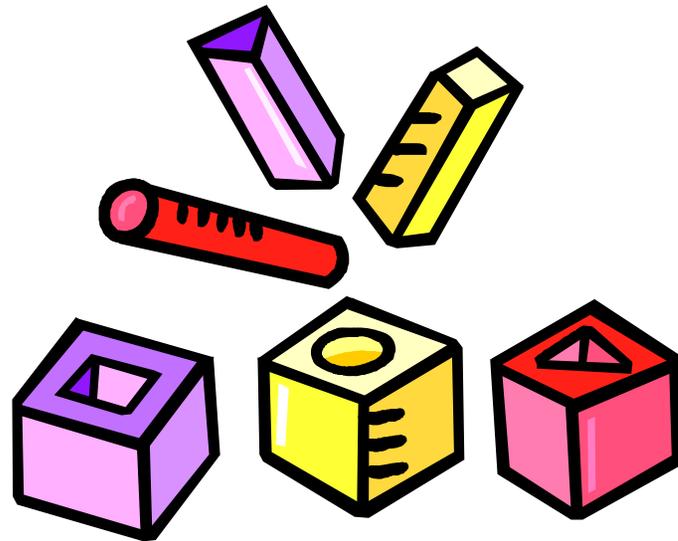
What We Know

- Students with severe disabilities can learn academics
 - Subgroup of students with most complex, multiple disabilities not represented in this research...also not represented in research on functional skills
- We have not conducted research on most components of the academic domains; will need another strategy until research emerges

Defining the Construct

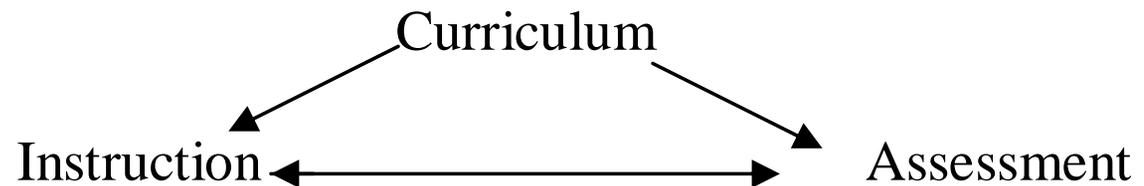
- Academic content (reading, math, science) for students with SCD should be as close as possible to the grade level content (themes, topics, materials, activities) but with a) adaptations in delivery of content to make it accessible to students level of understanding and b) differentiation in level of expectation for student achievement to focus on prioritized target skills within that content that are both meaningful to student and build growth in academic learning.

What is Alignment? What are the Criteria Typically Used to Evaluate It?



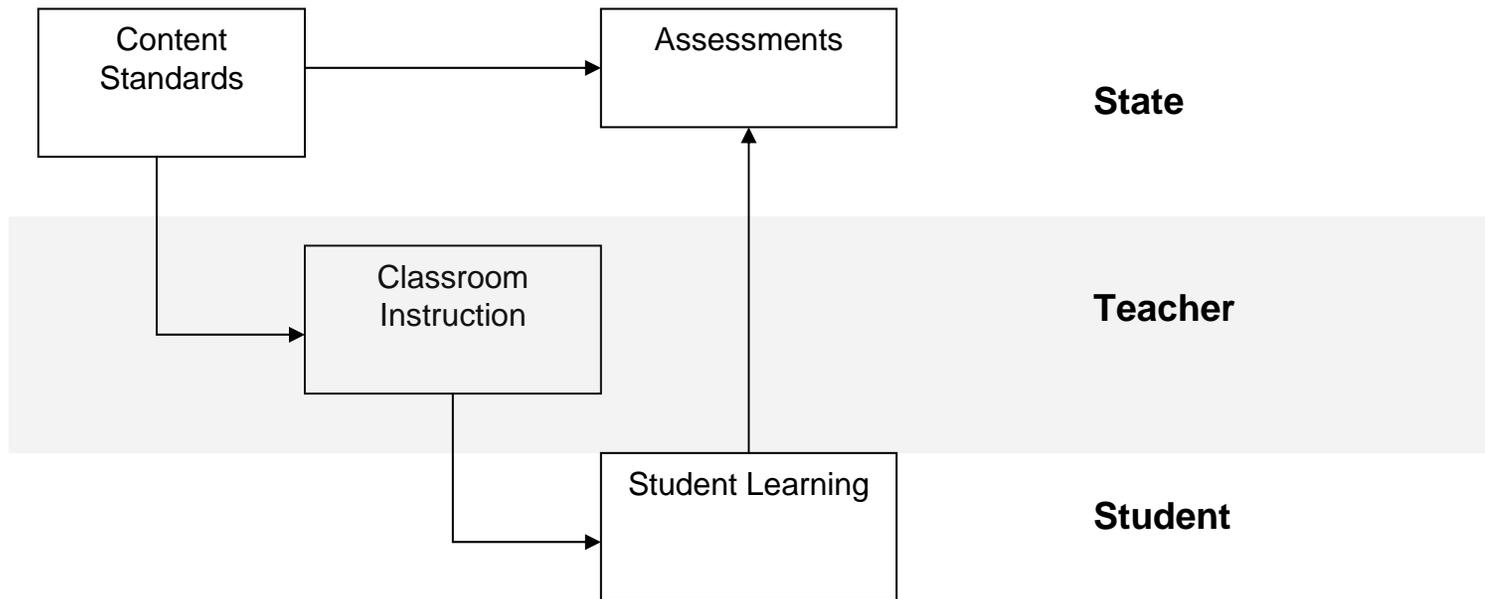
Curriculum Alignment

- A match between the written, taught, and tested curriculum



Three Levels of Alignment

Match between the written, taught, and tested curriculum



Webb's (1997) Criteria for Alignment Utilized

- Categorical concurrence
- Depth of knowledge
- Range-of-knowledge correspondence
- Balance of representation

Survey of Enacted Curriculum

- Use of two dimensions to categorize subject content
 - Content topics
 - Cognitive demand (Expectations for student performance)
 - E.g., for math-memorize, perform procedures, communicate understanding, generalize/prove, solve non-routine procedures
- Considers time spent teaching content in classrooms using same matrix

Achieve

- Content centrality
- Performance centrality
- Challenge
- Balance
- Range

Achieve

□ Content centrality

- Occurs after confirming match between item and content standard
- How evident is the content from reading of the item (and if standard is specific enough to be able to align)
 - Clearly consistent, standard not specific, somewhat consistent (assesses part of compound objective), inconsistent

□ Performance centrality

- Type of performance required by standard: select, identify, compare analyze, represent, use
- Is the performance called for by the item the same as that in the target objective (Standard may be too vague to tell)

Are These Applicable to AA-AAS

- UNC Charlotte Research Using Webb's criteria

States Reviewed

- State A- performance based
- State B- portfolio
- State C- portfolio

Results

- Number of items in language arts and math assessments ranged from 5 to 54
- Percent of items that could be aligned to the state's content standards ranged from 77.5% to 94.1%
 - This low complexity alignment step verified that all three states did have strong match between alternate assessment items and state standards

Categorical Concurrence

- Consistency of categories of content in both the content standards and assessments
 - Webb (1997) recommends at least six items per standard
 - Computed as % of content standards with at least six items aligned

Findings for Categorical Concurrence

□ State A

■ LA 66.7% Math 66.7%

□ State B

■ LA 40% Math 40%

□ State C

-LA 33.3% Math 0%

Question: How feasible/ desirable to have six items for every state standard in an alternate assessment?

Depth of Knowledge Consistency

- Level 1: Recall, observe, one step procedures, “right there” thinking
- Level 2: Comprehension, comparison, organization; classification
- Level 3: Reasoning, planning, conjecture, connect ideas, inference, prediction
- Level 4: Complex reasoning, planning and developing, multiple possible solutions, requires explanation and justification
- **We added-** Level 0: Requires little/no thinking (someone else is making the response)

Computation of DOK

- Panel first rated each of the state's standards for DOK
 - Became familiar with standards and DOK levels prior to viewing alternate assessments
- Then rated DOK for each alternate assessment entry
- Reliability (coefficient alpha) of reviewers' ratings was .69-.97 (adequate)

Findings

- DOK for all states skewed towards lower depth
 - Most items at levels 1 and 2 for AA
 - **But items at all four levels in all three states' alternate assessments**

- **Question:** Is an overall skewed DOK an alternate achievement standard expected? Does including items at all four levels help to ensure setting high expectations for AA?

Range-of-Knowledge Correspondence

- Examines the alignment of assessment items to the multiple objectives within the content standards
- Calculated as the % of objectives (for standards) that have at least one hit (one assessment item aligned to that standard)
- Recommended criteria is 50% of objectives have at least one aligned item

Findings

- Not calculated for State B because they have a single level of standards
- State A: range-of-knowledge congruence was 36.5%
- State C: range-of-knowledge was 0
- Question: Range of knowledge criteria, developed for typical large scale tests, may be most difficult to apply to AA. Once again, is the sampling of fewer objectives in the assessment another type of alternate achievement standard? What should be the criteria for range-of-knowledge for AA?

Balance of Representation

- Emphasis the assessment gives to different objectives within a content standard...how evenly distributed assessment items are
- Calculated using balance of representation index equation

Findings

- Balance index score of 0 indicates unbalanced representation; 1.0 is balanced
 - Only State A approached balanced representation; 2 of 6 standards had balance index $>.70$
 - Other two states had balance index below .6 for all standards
- Question: If alternate assessments focus on smaller number of objectives within the content standards, how is this subset determined? Vary across years? By teachers developing the portfolio? By stakeholders designing the AA?

Feedback from States

- Alignment method seemed appropriate and outcomes useful
- Noted that much of lack of congruence between assessment and standards was intentional...narrowing focus for alternate achievement standards
- In two states with portfolios, teachers make decision about which subset of objectives students will demonstrate...individualization valued as way to capture performance of students with complex disabilities

NAAC

Expert Panel

- Unique about alignment of AA-AAS
 - Need for transformation of standards before can develop items
 - Need to align this transformation (extensions, essence, etc) to standards and items to transformed and standards
 - Need for additional criteria relative to how to reduce complexity of expectation and still have some credible link to grade level standard
 - Issue of lack of current widespread practice of teaching academics; need to consider instructional alignment even more with this population to see if students are being taught the standards

Alignment Criteria

- From existing alignment methods
 - Item level
 - Depth of knowledge or cognitive demand
 - Content centrality
 - Performance centrality
 - Test level or overall instructional program
 - Range/ balance
 - Challenge
 - Alignment with instruction (enacted curriculum)
- Additional considerations for this population
 - Item level
 - Symbolic level
 - Meaningful
 - Overall instructional program
 - Balance with other IEP priorities

Depth of Knowledge vs. Cognitive Demand

- Level 1: Recall, observe,
 - Level 2: Comprehension, classification
 - Level 3: Reasoning, planning, connect ideas, inference, prediction
 - Level 4: Complex reasoning, planning and developing, multiple possible solutions,
- Adaptations
 - Adding “Level 0” to check for items that are “do for” student
 - A “lower level” of these four levels
 - E.g., Student selecting picture to make prediction about a story would be Level 3; obviously much lower cognitive demand than describing prediction

Content Centrality

- Achieve
 - How evident is match between item and standard; is standard too vague to create the match
 - “Face validity” by reviewers
- Problem with “face validity” in extending standards
 - Curricular expert admires student challenge; says okay to nearly anything
 - Special educator does not have full understanding of standard
 - Result- silly skills or functional only (“not plumb/ not square”)

Adding Understanding to Content Centrality

- How similar is the activity used to teach/test the standard to that used in the grade level?
- How similar are the materials used to teach/test the standard to those used in the grade level?
- Is the test item/ teaching activity alone recognizable as linking to the grade level content?

Content Centrality When Functionally Embedded

- If a different activity and materials are used (e.g., daily living activity),
 - do the student responses still reflect the same construct as found in the original standard?
 - Is the target student response clearly academic versus simply performing the daily living routine? Is it reading, math, science?
 - Will the student build academic knowledge beyond this one activity?
 - Is more than one activity used to show generalization of the academic construct, not just generalization across settings/people of the functional activity

Performance Centrality

- Teaching and testing tasks make a certain type of cognitive demand on a student
 - Achieve: rates the difference between the performance called for by the test item and that called for by the test item
 - E.g., “Student can identify major literary forms”...performance is “identify”
 - Vs. “Student can evaluate and compare major literary forms”....performance is two part “evaluate” and “compare”

Additional Consideration When Linking for Students with SCD

- As response mode differs substantially from how typical student would demonstrate the standard and differs across students who take the same assessment, the type of performance is retained
 - E.g., the response still “identifying” or “evaluating”
- When not possible (e.g., requires spoken response), is it comparable depth of knowledge? Still builds academic learning of construct?

Range/ Balance

- Probably will be narrowed (our research showed much narrower than Webb recommends)
 - Document decision
 - What objectives/ standards are not being sampled? How was the decision made to omit these?
 - Communicate decision to teachers/ parents
 - Curricular priorities/ priority standards for AA
 - Priority areas of curriculum for this student (must be at least what will be tested for fairness)
 - Goal not to leave out entire strand/ component of that curricular area
 - E.g., no coverage of data analysis in math

Challenge

□ Achieve

- Source of challenge: “fairly constructed”/ not trick questions
- Level of challenge
 - Across a set of items
 - Are they skewed towards more difficult or easier concepts
 - How consistent with level of standard

□ Ss with SCD

- Within assessments and instruction, avoid low expectations based on past assumptions
- Use universal design to be accessible for Ss with sensory or physical challenges

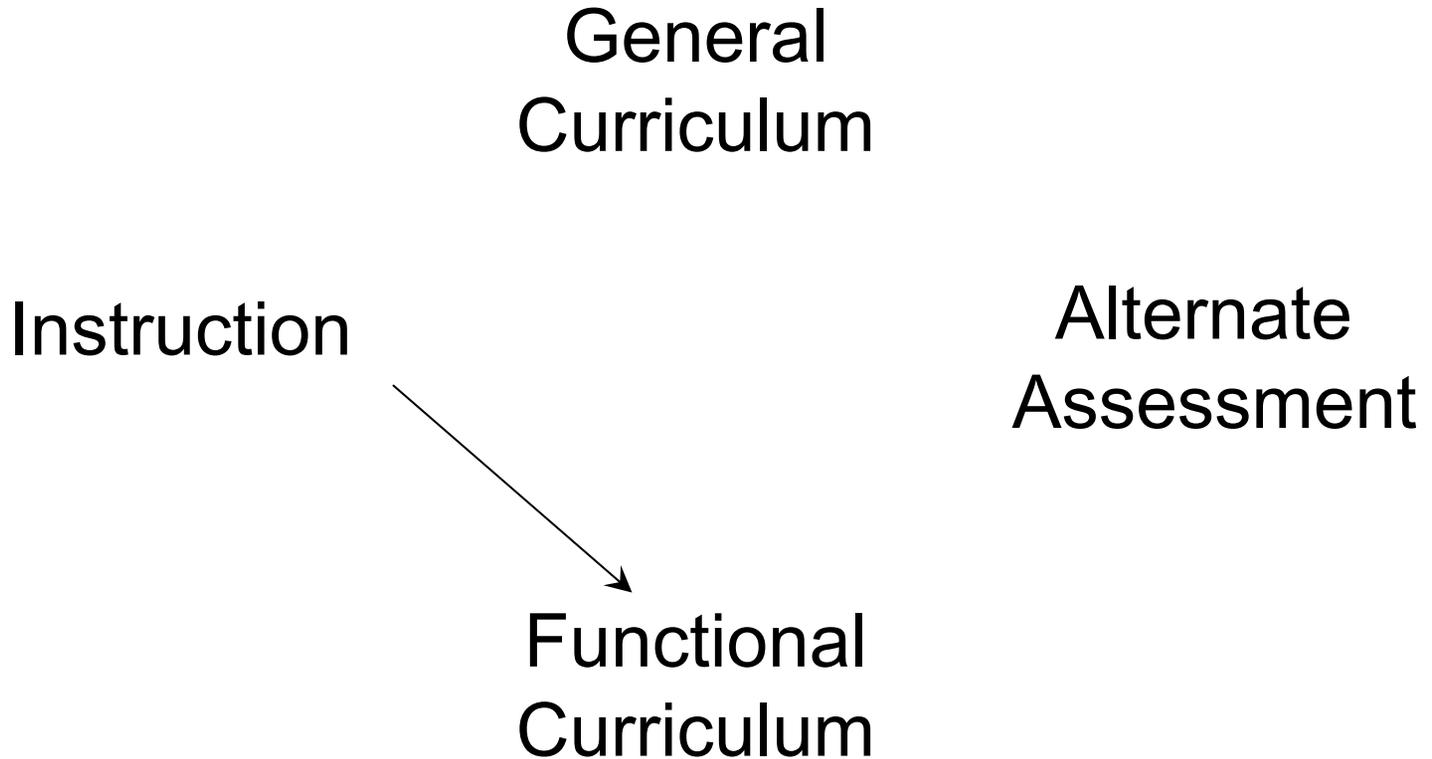
Additional Consideration for Alignment: Multiple Achievement Standards

- Level of symbolism in current communication
 - Symbolic: Speaks or has vocabulary of signs, pictures uses to communicate; reads sight words; recognizes some numbers/ may count
 - Emerging Symbolic: Beginning to use pictures or other symbols to communicate; limited vocabulary
 - Presymbolic: Communicates with gestures, eye gaze, moving to object, sounds
 - Special consideration: Students who do not seem to have intentionality in communication; no clear response established that can be used to assess understanding

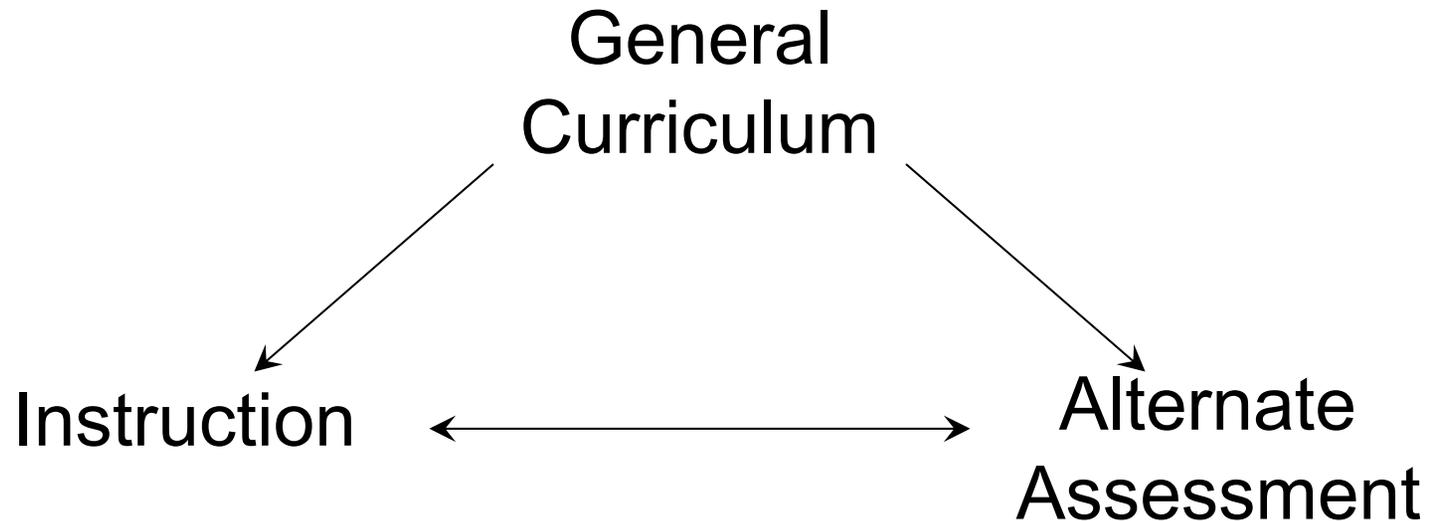
Additional Consideration: Meaningfulness

- Functional is
 - Usable in daily life; something student will do in their daily routines currently or in the future
 - Functional skills are not necessarily meaningful until student gains experience with them
- Meaningful is
 - Student will be able to gain enough understanding of activity to learn the target response
 - Student has some prior knowledge/ experience that gives the activity meaning
 - Acquiring the response will build academic knowledge that will broaden the student's world
 - Meaningful skills that are also functional are more likely to be maintained, but not all academic skills are immediately usable

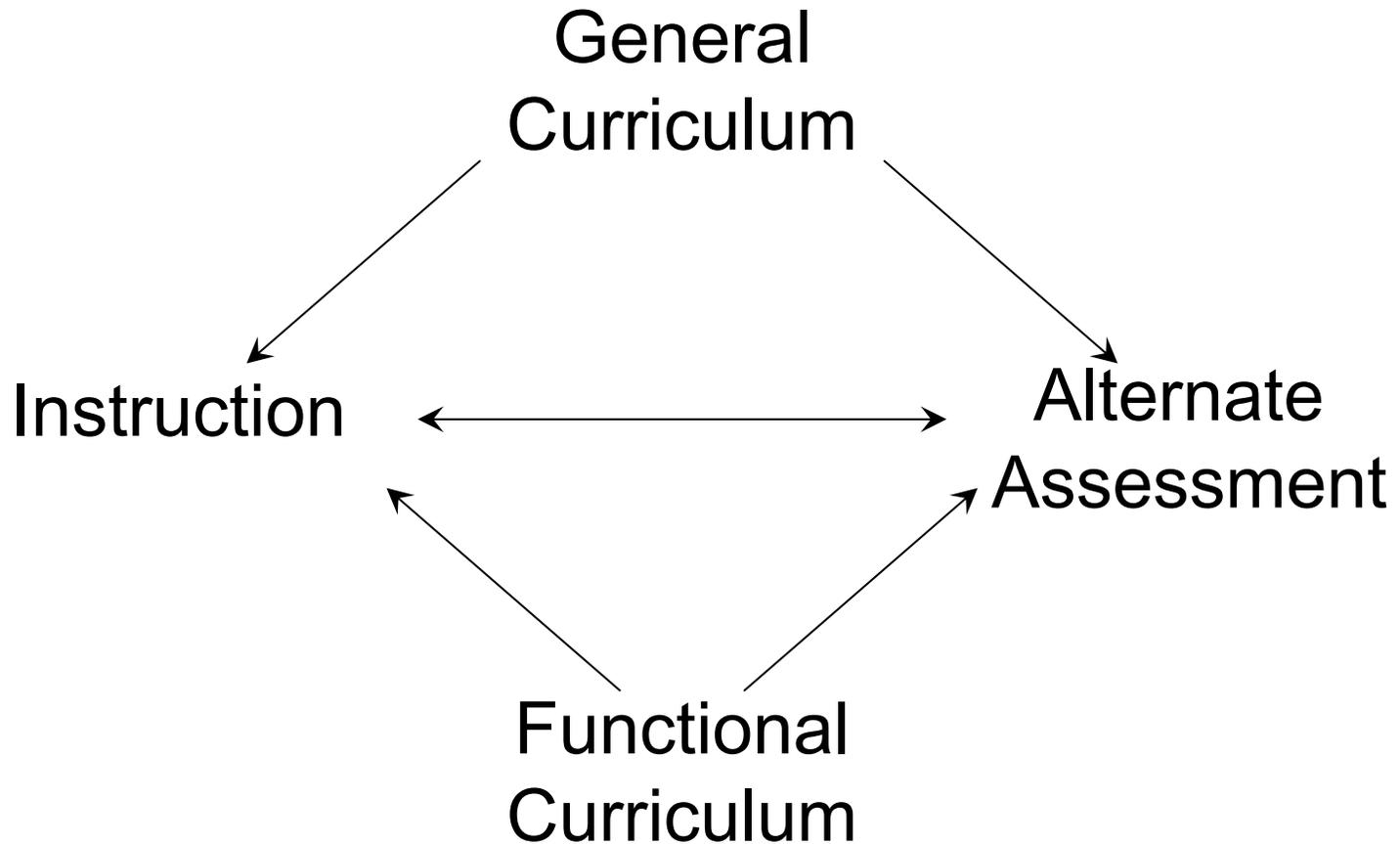
Continue to Focus on Functional Goals



Academic Also Should Be OK



Some Instructional/Assessment Items Will Do Both



What Is Needed to Align

- Academic content standards for grade levels
 - *Transformation (blueprint/ extension/ framework)*
 - *What is tested*
 - *What is taught*



How to Do Transformations

- Grade level content experts must be involved so standards are preserved in the translation
 - An expert is someone who would be entrusted in design of the regular assessment for this content area
- Special education experts who understand fully general curriculum access
- Special education teachers who are doing creative academic content work for this population

How the Transformations Will Be Used

- Resource for teachers on how to teach the state standards
 - Deep understanding of the grade level standards
 - Examples of teaching activities that set challenging expectations
- Development of alternate assessment and alternate achievement standards
 - With clear alignment to grade level content
 - Sets challenging expectations

Transformation Process Summary

- Define the construct (gen ed expert)
- How gen ed would teach it (gen ed expert)
- Depth of knowledge (gen ed)
 - Can this DOK be retained with creativity? (sped idea...gen ed validate)
- Prerequisite skills (gen ed describes)
 - Sped Ed what to adapt or teach
- State the extension
- Give examples of target skills/activities (for assessment or instruction)

Example: Biographies

Grade Level Achievement

- Standard
 - Compare and contrast *elements of biographies*
- Symbolic Level:
 - Reads and writes at grade level
- Content
 - Biographies of well known Americans
- Depth of knowledge
 - Level 3: requires connecting ideas
- Activities/skills
 - Silent reading of biography; answer questions about comparisons; compose biography with all elements

Modified Achievement?

- Standard
 - Compare and contrast *elements of biographies*
- Symbolic Level:
 - Reads and writes below grade level
- Content
 - Biographies of well known Americans using adapted text from lower grade level; or read aloud text
- Depth of knowledge
 - Level 3: requires connecting ideas
- Activities/skills
 - Silent reading of biography (adapted text/read aloud); answer questions about comparisons using a template that cues elements; compose biography filling in template with all elements

Alternate Achievement

Level 1- Symbolic

- Standard
 - Compare and contrast *elements of biographies*
- Symbolic Level:
 - Reads sight words & sentences with pic symbols; writes sight words or can circle large vocabulary of picture symbols
- Content
 - Biographies of well known Americans
- Depth of knowledge
 - Level 3: requires connecting ideas
- Activities/skills
 - Read aloud biography written in simple sentences with picture cues; circle pictures to answer questions about comparisons; compose biography by selecting pictures and making captions

Alternate Achievement Level 2- Early Symbolic

- Standard
 - Compare and contrast *elements of biographies*
- Symbolic Level
 - Recognizes a few picture symbols; recognizes larger number familiar objects and can use some symbolically
- Content
 - Biographies of well known Americans
- Depth of knowledge
 - Level 2: comprehension
- Activities/skills
 - Simplified text with pictures and repeated lines and vocabulary read to student about; student selects pictures to answer question about the story; puts pictures into circles to show “same” and “different” to compare biography with own life story

Alternate Achievement

Level 1- Presymbolic

- Standard
 - Compare and contrast *elements of biographies*
- Symbolic Level
 - Picture recognition is inconsistent, must be paired with objects; communicates by looking at/ moving to objects or people
- Content
 - Biographies of well known Americans
- Depth of knowledge
 - Level 1: recall/ matching
- Activities/skills
 - Adapted text with pictures read with student; objects also used to give meaning; student looks at/ points to objects from story

Alternate Achievement- Special Consideration

- Standard
 - Compare and contrast *elements of biographies*
- Symbolic Level
 - No consistent voluntary responding that can be used reliably (continue to observe for response/ AT consultations)
- Content
 - Biographies of well known Americans
- Depth of knowledge
 - Level ?: Awareness (probably not scored proficient)
- Activities/skills
 - Adapted text with pictures read with student; objects also used to give meaning; note whether student made any response to these stimuli (change in respiration, opened eyes, sound)

Trade Off:

Changing the Content and Increasing DOK

- Standard
 - Compare and contrast *elements of biographies*
- Symbolic Level
 - Recognizes a few picture symbols; recognizes larger number familiar objects and can use some symbolically
- Content
 - Biographies of family members; autobiography
- Depth of knowledge
 - Level 3: connections
- Activities/skills
 - Adapted text with pictures read with student; objects also used to give meaning; student compares elements of family member's and own story into "same"/ "different" charts using pictures/objects

Trade Off:

Keeping Content; less “academic” response

- Standard
 - Compare and contrast *elements of biographies*
- Symbolic Level
 - Recognizes a few picture symbols; recognizes larger number familiar objects and can use some symbolically
- Content
 - Biographies of famous Americans
- Depth of knowledge
 - Level 2: Comprehension
- Activities/skills
 - Adapted text with pictures read with student; recreates biography by placing objects related to story on shelf for biography display as teacher rereads story

Rule of Thumb...

- “Work it down”
 - Begin with content standard at grade level; how typical student would show understanding; typical materials/ activities
 - Translate one level to symbolic
 - Then translate to early symbolic
 - Then translate to presymbolic

Leaping from standard to presymbolic leads to....

- Standard
 - Compare and contrast *elements of biographies*
 - “This is too hard for our students. Let’s make it a communication activity.”
- Activities/skills
 - Use assistive technology to communicate basic needs

Validation Check

- Will the skill have meaning for the student?
- When looking at the skill I isolation, can you still identify the academic domain? Or is it no longer reading, math, etc.?
- Could a curriculum content expert link it back to the specific state standard?

Final Thought: Deep Curriculum Alignment

- Deep curriculum alignment occurs when what is tested is what is taught. It is the principle of “no surprises” for children
- However, deep curriculum alignment also means that the taught curriculum extends beyond what is tested

New Resources

- Browder, D.M., Ahlgrim-Delzell, L., Courtade-Little, G., & Snell, M.E. (2006). Access to the general curriculum. In M.E. Snell & F. Brown (Eds.). *Instruction of students with severe disabilities*. Upper Saddle River, NJ: Prentice Hall.
- Browder, D.M. & Courtade-Little, G. (2005). *Aligning IEPs to academic content standards*. Madison, WI: Attainment Co.
- Browder, D.M., & Spooner, F.H. (In press for 2006). *Teaching reading, math, and science to students with significant cognitive disabilities*. Baltimore: Paul H. Brookes.

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