

## **Most Significant Cognitive Disability Specially Designed Instruction (SDI) Case Study**

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### **IMPORTANT NOTE**

Students who are identified as having a most significant cognitive disability face the most profound and complex learning challenges and require the most intensive supports. These challenges are pervasive and affect learning across ALL content areas, as well as independent functioning, community living, leisure, and vocational activities. They require SDI to address ALL areas of need. Please note, for the purposes of this document, this example will only focus on ONE area (Reading Comprehension) for a 7th grade student with a most significant cognitive disability.

### **Meet Alex**

Alex is a seventh-grade student with a most significant cognitive disability who participates in the Alternate Framework (assessment and instruction aligned to the Alternate Academic Achievement Standards).

### **Background Information**

Alex was determined eligible for special education services in second grade under the disability category of Autism. At her most recent reevaluation in 6th grade, the IEP team determined Alex continues to qualify for special education services in the areas of reading, math, writing, communication, social interaction skills, and social emotional behavior. Alex communicates primarily with 3–4-word phrases, and she uses an Augmentative Alternative Communication (AAC) device to communicate basic needs, make choices, and express her preferences. She requires ongoing support to expand her communication skills, specifically in initiating conversations, responding to open-ended questions, building more complex sentences, and independently utilizing her device in varied contexts and settings. Alex is able to perform basic daily living skills with some support such as dressing, grooming, managing personal hygiene, and following a visual schedule to complete and transition between familiar home and school routines. She requires significant supports in more complex daily living tasks, such as managing her time, organizing her belongings, and following multi-step directions. Alex requires support in developing self-management skills such as managing her emotions and behavior when she is feeling overwhelmed or frustrated. She benefits from clear expectations, consistent routines, and the availability of sensory supports, frequent breaks, and calming strategies.

Alex's specially designed instruction based on the Alternate Framework reflects content from the grade level standards at a reduced breadth, depth, and level of complexity. In her English class, she currently uses modified reading materials that allow her to access the central concepts of the text and the skills emphasized in the grade-level Essential Elements aligned to grade level standards, such as an adapted version of the class text with simpler vocabulary and sentence structure, accompanied by pictures to support her comprehension. She is assessed using multiple choice questions presented orally with picture options while other students take a written test requiring short answer and essay questions. With adult support, Alex utilizes her AAC device to participate in small and large group discussions, as well as engage in social interactions with the peers in her class.

### Most Recent Assessment Data (from 6<sup>th</sup> grade)

| Diagnostic Educational Assessment Scores |       |                |
|--|-------|----------------|
| Composite                                | Score | Description    |
| Reading Comprehension                    | 44    | Very Low Range |
| Reading Phonics                          | 48    | Very Low Range |
| Math Calculation                         | 49    | Very Low Range |
| Math Problem Solving                     | <40   | Very Low Range |
| Written Expression                       | 42    | Very Low Range |

| Cognitive Assessment Scores |       |                     |
|-----------------------------|-------|---------------------|
| Composite                   | Score | Description         |
| Working Memory              | <40   | Extremely Low Range |
| Fluid Reasoning             | 40    | Extremely Low Range |
| Processing Speed            | 43    | Extremely Low Range |
| Verbal Comprehension        | 54    | Extremely Low Range |
| Visual Spatial              | 50    | Extremely Low Range |

| Adaptive Assessment Scores |               |                     |              |                     |
|----------------------------|---------------|---------------------|--------------|---------------------|
| Composite                  | Teacher Score | Description         | Parent Score | Description         |
| General Adaptive Composite | 53            | Extremely Low Range | 60           | Low Range           |
| Conceptual                 | 55            | Extremely Low Range | 62           | Low Range           |
| Social                     | 56            | Extremely Low Range | 57           | Extremely Low Range |
| Practical                  | 60            | Low Range           | 62           | Low Range           |

**Impact Statement**

Alex’s diagnosis of Autism impacts her ability to engage with grade level content independently as well as the pace at which she acquires and retains new information. Her most recent cognitive and adaptive assessments indicate that her cognitive and adaptive functioning fall within the extremely low range when compared to her same-aged peers, affecting her academic performance in the areas of reading phonics and comprehension, math calculation and problem solving, writing, communication, social emotional behavior, and social interaction. The nature and severity of Alex’s disability further impacts her ability to communicate her wants and needs, navigate social situations, engage in self-regulation, and process sensory input. Alex utilizes an Augmentative and Alternative Communication (AAC) device to support her expressive and receptive communication needs. She requires extensive, direct, individualized, and repeated instruction with substantial supports to access and make measurable progress in grade level curriculum aligned to the alternate academic achievement standards and to support direct instruction in independent and functional learning activities.

**Present Levels of Academic and Functional Performance (PLAAFP): Reading Comprehension**

Source(s): Universal screening assessments, IEP goal progress, and classroom observation

Level of Performance: 2nd grade

Summary of Assessment Findings:

| Universal Screener Trend Data               |                                   |  |
|---|-----------------------------------|--|
| Year Administered                           | Skill Area                        | Grade Level Equivalent                                     |
| 4th Grade End of Year                       | Vocabulary                        | Kindergarten Level   |
|   | Comprehension: Literature         | Kindergarten Level   |
|   | Comprehension: Informational Text | Kindergarten Level   |
| 5th Grade End of Year                       | Vocabulary                        | 1 <sup>st</sup> Grade Level                                |
|   | Comprehension: Literature         | 1 <sup>st</sup> Grade Level                                |
|   | Comprehension: Informational Text | Kindergarten Level   |
| 6th Grade End of Year                       | Vocabulary                        | 2 <sup>nd</sup> Grade Level                                |
|   | Comprehension: Literature         | 2 <sup>nd</sup> Grade Level                                |
|   | Comprehension: Informational Text | 1 <sup>st</sup> Grade Level                                |
| Current Year (7 <sup>th</sup> Grade-Winter) | Vocabulary                        | 2 <sup>nd</sup> Grade Level (End of 2 <sup>nd</sup> grade) |
|   | Comprehension: Literature         | 2 <sup>nd</sup> Grade Level (End of 2 <sup>nd</sup> grade) |
|   | Comprehension: Informational Text | 1 <sup>st</sup> Grade Level (End of 1 <sup>st</sup> grade) |

Alex’s most recent Universal Screening Assessment data reveals varying levels of performance across different reading domains, including Vocabulary, Comprehension of Literature, and Comprehension of Informational Text.

Alex demonstrated strengths in the areas of identifying story elements such as character actions and simple cause and effect relationships and identifying familiar vocabulary words found frequently in text. She demonstrated challenges with advanced, less common vocabulary words, comprehending informational text, particularly identifying key details and the main idea, navigating the structure of informational texts, and making inferences. Assessment results indicate that while Alex demonstrated strengths in some areas, overall, she is performing at the 2nd grade level in the area of reading comprehension.

Based on classroom observations, Alex has demonstrated improvement in her reading comprehension skills, particularly in her ability to identify key details in a text when provided with visual supports. She enjoys listening to stories and appears to be the most engaged when they are paired with visuals. She often spontaneously comments on what she sees in the visuals using short 2–3-word verbal phrases or her Augmentative and Alternative Communication (AAC) device. Alex shows a consistent willingness to learn and engage in classroom activities, and she responds well to positive reinforcement and encouragement. While Alex has demonstrated

progress in her reading comprehension skills, particularly with responding to “wh” questions regarding explicit details of a text, she continues to perform significantly below grade level with ongoing challenges in independently reading and comprehending grade-level texts, identifying main ideas, inferencing, and summarizing texts without the use of significant supports.

Alex’s ELA teacher reports that Alex is attentive and engaged during class read alouds and discussions, especially when texts are adapted and paired with visual aids. However, she struggles with independent reading assignments and often requires one-on-one support to complete comprehension tasks. She benefits from small group instruction, modeling, and graphic organizers to help her organize her thoughts. While Alex currently requires adult support to engage with peers using her AAC device, she appears to enjoy being placed in small groups for discussions and projects.

Alex’s case manager reports that Alex has shown progress in identifying key details from a text when given visual choices, but she continues to need significant support with identifying the main idea or drawing inferences. Alex also demonstrates difficulty with retaining new vocabulary words and applying them in different contexts, which directly influences her performance in comprehending both literary and informational texts. She benefits from explicit instruction in comprehension strategies, pre-teaching vocabulary words, visual supports, chunking text into smaller sections, and responds well to structured and predictable learning activities. With support from adults, Alex also utilizes a “break” card to indicate when she is feeling overwhelmed and needs to go to a designated calming area in the classroom to engage in previously taught calming strategies.

Alex’s parents report that they have noticed improvements in her ability to discuss simple stories and texts read at home, especially those that are familiar and related to her interests. They have concerns about her continued struggle with more complex reading materials and have observed that she becomes frustrated when she cannot understand or complete reading assignments independently. They would like to see her become more confident and gain more independence in reading.

**Previous IEP Goal:** By March 2024, given a modified grade-level text read aloud and access to her AAC device, Alex will use visuals and/or text to identify the main idea and explicit key details of the text with 80% accuracy or greater on 4 out of 5 trials as measured by classroom-based assessments.

**Previous IEP Goal Progress:** Alex did not achieve this goal. While she consistently demonstrates the ability to identify key details in the text when provided with “wh” questions and at least 3 answer choices, she continues to require prompting to identify the main idea. Alex has achieved 80% accuracy on 3 out of 5 classroom-based assessments. Continued support is needed to reach the full goal.

Does this area impact the student’s academic achievement and/or functional performance? YES

## Skill Expectations

### Reading Comprehension

Students in 7<sup>th</sup> grade are expected to:

- **Analyze text structure**
  - Understand how the structure of a text (e.g., cause/effect, problem/solution) contributes to its meaning
- **Identify themes**
  - Determine the central theme or main idea of a text and analyze how it is developed through details, character actions, and plot events
- **Cite textual evidence**
  - Support analysis and inferences about a text by citing specific evidence from the text
- **Make inferences**
  - Draw conclusions based on implicit information and details provided in the text
- **Compare and contrast texts**
  - Analyze similarities and differences between characters, settings, themes, or perspectives in different texts
- **Understand figurative language**
  - Interpret the meaning figurative language (e.g., metaphors, similes) and its impact on the text
- **Evaluate arguments and claims**
  - Identify and evaluate arguments and claims in non-fiction texts, including assessing the relevance and sufficiency of evidence

### Priority Skills

Using their collective expertise and knowledge, the team determined that Alex’s upcoming IEP will focus on the Dynamic Learning Maps (DLM) Essential Element that aligns with the 7th grade Maryland College and Career Readiness (MCCR)

Reading Literature standard requiring students to determine the theme or central idea of the text, analyze its development over the course of the text, and provide an objective summary. The Essential Element aligned to this grade level content standard requires students to identify the events in a text that are related to the theme or central idea. Alex's Present Levels of Academic and Functional Performance (PLAAFP) indicate that while she can respond to simple "wh" questions to identify explicit details in a text, she has difficulty identifying the main idea or central theme, making inferences, and connecting details within the text. The team prioritized this specific standard in order to build upon Alex's previous progress and continue to narrow the gap in her reading comprehension skills, which will support her in fostering independence and increasing self-confidence when accessing grade level content across all academic areas.

| Skill Focus           | Grade-Level Standard   | DLM Essential Element   | Skill/Behavior  |
|-----------------------|--|---|---|
| Reading Comprehension | ELA- Reading (Literature)- RL.7.2 Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text. | ELA.EE.RL.7.2- Identify events in a text that are related to the theme or central idea. | Identify the main idea of a text and events or details that support it. |

## Goals and Objectives

After the team prioritized skills, they developed a goal aligned to the grade level standard of focus. Each goal and objective they developed includes conditions, behavior, criteria (mastery and retention), method of measurement, and time frame

### Reading Comprehension Goal and Objectives

**Goal:** By March 2025, given access to her AAC device, modeling, and a modified grade level text read aloud, Alex will identify the main idea of the text and at least two supporting details on 4 out of 5 trials as measured by classroom-based assessments.

**Objective 1:** By March 2025, given access to her AAC device, modeling, fading adult support, and a modified grade level paragraph read aloud, Alex will correctly choose the main idea of the paragraph from a field of at least three answer choices on 4 out of 5 trials as measured by classroom-based assessments.

**Objective 2:** By March 2025, given access to her AAC device, modeling, fading adult support, a graphic organizer, and pre-selected details from a familiar text, Alex will

correctly sort which details support the main idea of the text on 4 out of 5 trials as measured by classroom-based assessments.

**Objective 3:** By March 2025, given access to her AAC device, modeling, fading adult support, and a modified grade level paragraph read aloud, Alex will highlight or underline at least 2 key words or phrases related to the main idea of the paragraph on 4 out of 5 trials as measured by classroom-based assessments.

**Objective 4:** By March 2025, given access to her AAC device, fading adult support, and a modified grade level text read aloud, Alex will identify the main idea of the text and at least one supporting detail on 4 out of 5 trials as measured by classroom-based assessments.



## Specially Designed Instruction

### Instruction and Intervention

Alex receives core reading instruction in her English class with the delivery of SDI from her special education teacher and the support of a paraeducator daily. During daily instruction, Alex receives warm-ups that focus on activating prior knowledge of a component of the lesson that day, reviewing previously taught vocabulary words related to that day's lesson, or a warm-up that focuses specifically on her IEP goals and objectives. Alex also receives intensive reading intervention daily to target her skill deficits in the areas of reading, writing, and vocabulary skills. During small group time, Alex receives explicit instruction from her special education teacher, which includes repeated practice and immediate feedback, as well as pre-teaching and re-teaching key concepts. She participates in large group activities or discussions with the support of her AAC device and a paraeducator, who facilitates intentional opportunities to engage with peers. At the close of the lesson, she participates in a modified version of the exit ticket, which includes visuals, simplified language, and allows for multiple modes of responding, including the use of her AAC device. Alex utilizes a visual schedule that she reviews with the paraeducator at the beginning of class and checks after each activity, so she is aware of what is coming next and what is expected of her. Frequent, short breaks are built into the schedule to help her remain focused and engaged. Alex's AAC device is consistently integrated throughout the lesson, allowing her to participate by expressing her understanding of concepts, asking questions, and interacting with her peers. The special education teacher and paraeducator work with Alex to increase her independence with using her device by modeling, giving verbal or gestural cues, providing wait time for responses, and positive reinforcement and encouragement, with the intent to gradually fade these supports as Alex becomes more independent.

The special educator and paraeducator meet weekly to collaboratively plan for the delivery of Alex's specially designed instruction. They discuss the lesson objectives, which materials need to be adapted or modified, relevant vocabulary words to be pre-programmed into the AAC device, how supports will be integrated throughout the lesson, and opportunities within the lesson to capitalize on peer engagement. They also discuss Alex's progress, any adjustments that need to be made, and review data to ensure that SDI is being implemented with fidelity. Bi-weekly, the Speech and Language Pathologist and the Occupational Therapist will join the collaborative meeting to provide support on the implementation of Alex's AAC device as well as provide input on strategies for meeting Alex's sensory needs to optimize engagement and self-regulation. Additionally, brief daily check-ins may occur before

and after each lesson to discuss necessary adjustments or evaluate and reflect on Alex's progress.

### **Accommodations**

- Text to Speech/Human Reader- Alex requires text to be read aloud, especially when material is above her independent reading level. This support will provide her access to complex grade level content.
- Human Scribe- Alex requires access to a human scribe in order to assist her with expressing her ideas and answers during writing activities. This can involve transcribing Alex's verbal or AAC device responses into written form.
- Frequent breaks- Alex requires regular, scheduled breaks during instructional periods in order to maintain focus and engagement in classroom activities and promote self-regulation.
- Extended time- Alex requires extended time to complete tasks and assessments to accommodate her processing speed and to allow for the use of her AAC device.

### **Supplementary Aids and Services**

- Visual schedule- Alex will be provided with a visual schedule in order to help her understand and anticipate the structure of the class period. Staff will direct Alex to check her schedule as each activity is completed, so she knows what to expect next.
- Clear, direct instructions- Alex will be provided with clear, concise, and direct instructions to support her understanding of task expectations.
- Repeat directions and check for understanding- Alex requires directions to be repeated and clarified as needed, to ensure she comprehends material.
- Adult support- Alex requires adult support in order to manage transitions, remain on task, facilitate scheduled breaks, break down tasks into manageable steps, offer prompts when needed, reinforce the use of her AAC device, and facilitate peer interaction.
- Use of AAC device- Alex requires consistent access to her AAC device throughout her school day in order to support her communication needs. She requires ongoing training, modeling, and support to ensure she is using it as independently as possible to express her wants, needs, and ideas.

- Modified content aligned to alternate standards- Alex requires text, materials, assignments, and assessments that are aligned to the alternate achievement standards and modified to include simplified language, reduced length and complexity, and visual aides.
- Alternate response formats- Alex requires alternate response formats in order to demonstrate her understanding of content. This can include but is not limited to, verbal responses, using her AAC device, and offering alternative formats such as multiple choice, fill-in-the-blank options with word banks, sorting or matching activities, etc.
- Explicit instruction- Alex benefits from explicit instruction in key academic and functional skills. This includes direct teaching of reading comprehension strategies and clear step-by-step directions that are explicitly taught and modeled, and frequent checks for understanding.
- Graphic organizers and visual aides- Alex requires visual aides throughout instruction to support comprehension, as well as visual graphic organizers to help her organize information and ideas.
- Small group instruction- Alex requires instruction in small group settings when learning new concepts or receiving interventions in order to access more individualized attention and support, as well as to reduce distractions and assist Alex with maintaining focus during lessons.
- Flexible seating- Alex will be provided with flexible seating options as necessary in order to accommodate her sensory needs and promote focus and engagement.
- Access to sensory materials- Alex will be provided with access to a menu of sensory materials in order to accommodate her sensory needs, promote self-regulation, and promote focus and attention.
- Structured peer interactions- Alex requires support in facilitation of structured peer interactions during instruction to encourage social communication, using her AAC device as needed.

### **Support to Personnel**

- English Language Arts Teacher- Alex's ELA teacher will be provided with training from the case manager on each of Alex's supplementary aids, services, and accommodations. Progress on Alex's IEP goals and objectives are shared by the

case manager and reviewed regularly by the team at their collaboration meetings so they can adjust instruction as necessary in order to accelerate progress on Alex's goals and objectives, as well as in the grade level curriculum. Alex's speech and language pathologist and occupational therapist also provide training and support on embedding the use of Alex's AAC device and sensory supports throughout instruction.

- Paraeducator: Paraeducators who interact with Alex also receive training from the case manager on each of Alex's supplementary aids, services, and modifications, utilizing Alex's AAC device, and providing sensory supports to enhance self-regulation and promote attention. They will additionally receive training from the special education teacher on how to monitor progress on Alex's goals and objectives, and prompt fading in order to promote independence during instruction and social interactions. The paraeducator assigned to Alex's English class will attend weekly collaborative planning sessions in order to participate in discussions related to Alex progress and any adjustments that need to be made to instruction.