# User Personas

Specific Learning Disability in Reading

Johnny is a student with a reading disorder. He has difficulty learning new material in a classroom and struggles when taking tests. He primarily has trouble with his inability to sound out words, which leads to a slow and laborious reading speed and difficulty recalling what he has read. To help him learn and perform in the classroom he currently requires read-aloud accommodations, simplified directions, additional time to read and take tests, and visual directions to supplement written directions. Johnny does better when directions are presented one step at a time and when each step has a representative image or visual to help him conceptualize the requirements of his task.

### Inclusion Order:

Spoken: TextOnly

### Accommodations in PNP:

#### Display

* + Answer Masking

#### Control

* Breaks
* Additional Testing Time, unlimited
* Line Reader, hexadecimal #FCD209

#### Content

* Cognitive Guidance
* Keyword Emphasis
* Alternative Representations (graphic)
* Spoken, text only: synthetic speech, medium recording speed
* Simplified language

### IEP-Driven Accommodations With Testing Implications:

* Contextual, electronic dictionary (e.g. pop-up glossary) with speech output
* Directions and passages read aloud with synthesized speech and synchronized highlighting
* Graphic organizer for lengthy written responses
* Graphic representation of directions
* Highlight and annotate text in long passages (e.g. more than two paragraphs)
* Homonym checker for written responses
* Increasing white space between lines of text
* Keyword emphasis (highlighting key vocabulary)
* Line Reader
* Passage navigation by chapter, page, paragraph, sentence, word, and character
* Pop-up glossary with speech output
* Reduced answer choices
* Simplified language in directions and content
* Text-to-speech with synchronized highlighting for all text, including passages

### Additional IEP-Driven Accommodations:

* Graphic organizer software with picture library for creating pictograph directions and outlines for writing assignments
* Highlighting key vocabulary

### Questions and/or Required PNP Elements, Not Yet in Schema:

* Content: Recording Speed (slow, medium or fast) – I am guessing it would be something like:

<spokenRecordingSpeed>Medium</spokenRecordingSpeed>

* Content: Alternative Representation Type for graphic representation – right now there is only “Text” (xs:string) and no way to specify other representations. I am guessing it would be something like:

<apip:alternativeRepresentationType>graphic</apip:alternativeRepresentationType>

* Control: Breaks – How will the PNP specifiy the number / frequency and duration of the breaks? (e.g. every 30 minutes, etc.)

### Sample PNP Code:

Not Valid

Required in Schema

Not in Schema - Jan’s Best Guess

Inclusion Order

<?xml version="1.0" encoding="UTF-8"?>

<accessForAllUser xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0 apipv1p0\_afapnpv2p0\_v1p0.xsd" xmlns="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0" xmlns:apip="http://www.imsglobal.org/xsd/apip/apipv1p0/imsapip\_pnpv1p0">

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<apip:readAtStartPreference>true</apip:readAtStartPreference>

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</apip:spoken>

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</apip:simplifiedLanguage>

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</apip:alternativeRepresentations>

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<apip:activateByDefault>true</apip:activateByDefault>

</apip:cognitiveGuidance>

<apip:keywordEmphasis>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

</apip:keywordEmphasis>

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</content>

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<apip:apipControl>

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</apip:additionalTestingTime>

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</apip:breaks>

<apip:lineReader>

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<apip:activateByDefault>true</apip:activateByDefault>

<apip:colour>FCD209</apip:colour>

</apip:lineReader>

</apip:apipControl>

</control>

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<apip:activateByDefault>true</apip:activateByDefault>

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</apip:masking>

</apip:apipDisplay>

</display>

</accessForAllUser>

Dyslexia

Sam is a student with severe dyslexia. He is proficient with multiple assistive technology tools and performs well in advanced courses. He uses DAISY formatted textbooks with reading support software and relies on the DAISY navigation tools to find assigned reading passages. He also uses the annotation and bookmark tools to assist him with studying. Sam scans hardcopy handouts and runs OCR software to translate them into text that he can read with his assistive technology. When possible, Sam changes the foreground and background colors to be black on cream. He prefers hexadecimal numbers #000000 as his foreground color and #FFFACD for his background color, but can function successfully with colors that are similar in terms of their luminance contrast ratio. Additionally, Sam uses free tools to support his reading needs. He saves articles and reading assignments to [*Pocket*](http://getpocket.com/)*,* so that he can change the font face to a serifed font and adjust the white space between lines of text and between characters. These adjustments make text easier for him to read, especially in situations when he does not have access to text-to-speech software. Sam is a straight-A student in advanced courses, but has difficulty with high-stakes tests because he is not able to use tools to have passages read to him or to change the font characteristics and white space. He is allowed extra time on tests, which allows him to pass, but he does not perform at the same level he performs in the classroom when he is allowed to use his assistive technology tools.

### Inclusion Order:

Spoken: TextOnly

### Accommodations in PNP:

#### Display

* + Customized Foreground Color
  + Customized Background Color

#### Control

* Additional Testing Time, 2.5 hours
* Line Reader, hexadecimal #9AD147

#### Content

* Keyword Emphasis
* Spoken, text only: synthetic speech, fast recording speed

### IEP-Driven Accommodations With Testing Implications:

* Ability to customize foreground and background colors
* Ability to customize the font face
* Ability to rechunk content to improve comprehension
* Access to a dictionary
* Additional Testing Time
* Contextual, electronic dictionary (e.g. pop-up glossary)
* Customized foreground and background colors
* Customizable white space between lines of text and between letters that can be changed, based on the passage being read
* Directions and passages read aloud
* Highlight and annotate text in passages
* Homonym checker
* Line Reader
* Passage navigation by chapter, page, paragraph, sentence, word, and character
* Seriffed font face or weighted font face (e.g. Open Dyslexic font)
* Text-to-speech with synchronized highlighting for all text, including passages

### Additional IEP-Driven Accommodations:

* Extended time to complete assignments

### Questions and/or Required PNP Elements, Not Yet in Schema:

* Content: Recording Speed (slow, medium or fast) – I am guessing it would be something like:

<spokenRecordingSpeed>Fast</spokenRecordingSpeed>

### Sample PNP Code:

Not Valid

Required in Schema

Not in Schema - Jan’s Best Guess

Inclusion Order

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<apip:spokenRecordingSpeed>Fast</apip:spokenRecordingSpeed>

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</apip:lineReader>

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</apip:foregroundColour>

</apip:apipScreenEnhancement>

</screenEnhancement>

</display>

</accessForAllUser>

Attention Problems

Malori is student with attention problems. As a result of her inability to focus or regulate her attention, Malori often loses track of time when working on a test item. She will become distracted by other auditory or visual stimuli in the room. When she does regain focus she can become impulsive in her response choices and make numerous omission errors on tests and assignments. She becomes very anxious on timed activities and finds it difficult to focus on the task because she is worried about running out of time. She also omits answers when she works quickly and does not pay enough attention to the details of the instructions or the completion of her work. In these situations, Malori turns in her assignment or test, thinking she performed well but her poor self-monitoring ability has resulted in an unrepresentative sample of her true ability.

### Inclusion Order:

Not Applicable

### Accommodations in PNP:

#### Display

* Masking

#### Control

* Breaks
* Additional Testing Time, 3 hours per subject area
* Line Reader, hexadecimal #ED8191

#### Content

* Keyword Emphasis

### IEP-Driven Accommodations With Testing Implications:

* Ability to rechunk content to increase comprehension
* Additional Testing Time
* Auditory & visual prompts to stay on task (e.g. timer, stopwatch, verbal encouragement from teacher, etc.)
* Custom masking of test items
* Frequent breaks
* Highlight / Annotate text in passages
* Highlight key vocabulary
* Keyword (vocabulary) emphasis
* Line Reader
* Mouse pointer location utility (e.g. circle around the mouse when the control key is pressed)
* Noise-cancelling headphones with ocean wave sounds during tests to reduce audio distractions
* Study carrel to reduce visual distractions

### Additional IEP-Driven Accommodations:

* Rewards for work successfully completed (e.g. 5 minutes of video game access, or access to drawing paper and markers for 30 – 45 minutes of on-task behavior; expectations for length of on-task behavior differs, based on content area).
* Study carrel during lengthy assignments to reduce visual distractions

### Question and/or Required PNP Elements, Not Yet in Schema:

* Control: Breaks – How will the PNP specifiy the number / frequency and duration of the breaks? (e.g. every 30 minutes, etc.)
* How will custom masking be specified? The APIP Conformance Table only has options for “answer masking” and “masking.” Schema lists Masking types as: xs:string (default), xs:positiveInteger, xs:QName, xs:short, xs:time. My best guess is:

<apip:maskingType>CustomMasking</apip:maskingType>

* Control: Not sure if the time multiplier should be 3.0, or just 3. Also, how do you specify that the time should be 3 additional hours per subject?

### Sample PNP Code:

Not Valid

Required in Schema

Not in Schema - Jan’s Best Guess

Inclusion Order

<?xml version="1.0" encoding="UTF-8"?>

<accessForAllUser xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0 apipv1p0\_afapnpv2p0\_v1p0.xsd" xmlns="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0" xmlns:apip="http://www.imsglobal.org/xsd/apip/apipv1p0/imsapip\_pnpv1p0">

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</apip:keywordEmphasis>

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</apip:lineReader>

</apip:apipControl>

</control>

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</apip:masking>

</apip:apipDisplay>

</display>

</accessForAllUser>

Cerbral Palsy/Average IQ

Felix is a student with cerbral palsy who has a severe level of impairment related to his diagnosis. His gross motor functioning is significantly impaired. He is unable to walk and relies on his motorized wheelchair to access travel around his school and his classroom. His vision is slightly impaired, but he can independently perceive printed and digital materials that are enlarged to 200%. Felix’s fine motor skills are impaired but he has enough motor control to operate his wheelchair with a proximity switch. He is unable to use standard or modified pointing devices, but can operate a computer and a tablet with a switch interface system, contextual word prediction, sticky keys, and an onscreen keyboard with scanning capabilities and mouse emulation controls. Since Felix’s muscles are impaired by his CP, his speech intelligibility is reduced and inconsistent, making voice recognition software impossible to use. Felix does have average intelligence and a high level of content knowledge, but communicating that information to people and software systems can be frustrating for Felix.

### Inclusion Order:

Not applicable

### Accommodations in PNP:

#### Display

* Magnification 2.0

#### Control

* Breaks
* Additional Testing Time

#### Content

* Keyword emphasis

### IEP-Driven Accommodations With Testing Implications:

* Additional time for testing
* Augmentative Communication Device with Dynamic Display and Keyguard
* Frequent breaks due to physical fatigue
* Highlight key vocabulary as a visual support
* Laptop computer with Bluetooth capability, wireless Internet access, and Microsoft Office
* Onscreen keyboard with scanning capability and mouse emulation tools
* Sticky keys
* Switch interface system and proximity switch
* Word prediction software with customized student profile and vocabulary

### Additional IEP-Driven Accommodations:

* Stander and mat for time out of wheelchair

### Questions and/or Required PNP Elements, Not Yet in Schema:

* Control: Breaks – How will the PNP specifiy the number / frequency and duration of the breaks? (e.g. every 30 minutes, etc.)
* The way “magnification” is handled seems weird to me – why wouldn’t the level of magnification come under <apip:apipScreenEnhancement>, where assigning the support and the default status are located?

### Sample PNP Code:

Not Valid

Required in Schema

Not in Schema - Jan’s Best Guess

Inclusion Order

<?xml version="1.0" encoding="UTF-8"?>

<accessForAllUser xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0 apipv1p0\_afapnpv2p0\_v1p0.xsd" xmlns="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0" xmlns:apip="http://www.imsglobal.org/xsd/apip/apipv1p0/imsapip\_pnpv1p0">

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</apip:breaks>

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</screenEnhancement>

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Emotional Disturbance - Anxiety

Bobby is a 13-year-old boy in the 8th grade. He qualifies for special education services under the qualifiying condition of emotional disturbance. He is primarily affected by his high level of anxiety, low self-esteem, and frequent feelings of frustration and inadequacy associated with learning. His diagnosis interferes with his access to education, which makes obtaining a valid measure of his content knowledge difficult.

Reading assignments that require Bobby to read more than one paragraph of text can trigger his anxiety and cause him to have an emotional outburst. Rechunking and increasing white space in passages, helps reduce his anxiety and improves his ability to read and comprehend. Bobby performs better when directions are read aloud to him.

Bobby is easily frustrated if he is asked to provide a written response to essay prompts. When frustrated, he will often throw things, yell at the teacher or other students, and refuse to complete his work. This is especially true when he feels like he has failed at an academic assignment. In the classroom, he receives frequent positive reinforcement for displaying appropriate behaviors and remaining on task.

Recently, Bobby has been provided access to a software-based curriculum product that allows him to complete most of his core academics on the computer. This product allows the teacher to provide Bobby with content that is individualized to his functioning level. There are also assistive technologies available on the computer that provide text-to-speech support, a phonetic spell check tool, and a graphic organizer. Bobby reports that he prefers to complete his work on the computer because he can replay lessons if he doesn’t understand something. He also reports that he likes being able to ask the teacher for help through the chat feature so that he doesn’t have to be embarrassed in front of his peers if he is struggling with a concept. Teachers report that Bobby is making more significant academic gains since he has started working with this software and that his behavior and attendance have improved.

### Inclusion Order:

Spoken: DirectionsOnly

### Accommodations in PNP:

#### Display

* NA

#### Control

* Breaks
* Additional Testing Time, 1.5 hours per subject area
* Line Reader, hexadecimal #FFAC11

#### Content

* Keyword Emphasis
* Spoken: DirectionsOnly, synthetic speech, medium recording speed
* Simplified Language

### IEP-Driven Accommodations With Testing Implications:

* Ability to rechunk content to improve comprehension
* Contextual, electronic dictionary (e.g. pop-up glossary)
* Additional testing time
* Graphic organizer software for written responses
* Highlight / Annotate text in passages
* Line Reader
* Passage navigation by chapter page, paragraph, sentence, word, and character
* Phonetic Spell Check Tool
* Text-to-speech with synchronized highlighting for directions

### Additional IEP-Driven Accommodations:

* Extended time to complete assignments
* Preferential seating away from stimuli that trigger behavioral outbursts

### Questions and/or Required PNP Elements, Not Yet in Schema:

* Content: Recording Speed (slow, medium or fast) – Not in schema I am guessing it would be something like:

<spokenRecordingSpeed>Medium</spokenRecordingSpeed>

* Control: Breaks – How will the PNP specifiy the number / frequency and duration of the breaks? (e.g. every 30 minutes, etc.)
* Control: Additional Testing Time – how do you specify that the time multiplier should be per subject? What if you need different amounts of time, depending on the subject?

### Sample PNP Code:

Not Valid

Required in Schema

Not in Schema - Jan’s Best Guess

Inclusion Order

<?xml version="1.0" encoding="UTF-8"?>

<accessForAllUser xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0 apipv1p0\_afapnpv2p0\_v1p0.xsd" xmlns="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0" xmlns:apip="http://www.imsglobal.org/xsd/apip/apipv1p0/imsapip\_pnpv1p0">

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</apip:keywordEmphasis>

</apip:apipContent>

</content>

<control>

<apip:apipControl>

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</apip:lineReader>

</apip:apipControl>

</control>

</accessForAllUser>

Autism

Brady is a 15-year-old boy diagnosed with Autism. He has severe deficits in verbal expressive language and mild deficits in receptive language. This interferes with his social communication, but he performs in the average range on cognitive assessments, especially if he is able to mask the answer choices until he has fully processed the question. Brady is mainstreamed a majority of his day. He is extremely sensitive to loud noises and becomes anxious and outwardly aggressive in stressful situations. Brady’s teacher uses a daily visual schedule to help reduce his anxiety. Brady is more relaxed when he knows what task he is working on, what constitutes completing a task, and what task will be worked on next. He also does well having visual and haptic cues that let him know when he will be finished and when he will receive a break. Directions are presented to Brady through picture symbols, paired with text. They are broken down into single tasks and whenever possible, they also provide him with the option to make choices. When Brady makes a request of his teacher he will use an iPad application, search through images and recognizable phrases, and select an icon to help him communicate. Considerations in the classroom related to his sensitivity to excessive auditory stimuli are addressed by giving Brady the ability to add or remove sounds from his environment with the use of headphones and background sounds. Flourescent lights are visually overstimulating for Brady. When he is in an environment with this type of lighting, Brady prefers to wear sunglasses, or use a blue color overlay to reduce glare.

### Inclusion Order:

Not Applicable

### Accommodations in PNP:

#### Display

Color Overlay: Blue, hexadecimal #B4DAEC

Answer Masking

Auditory Calming

#### Control

Breaks

Additional Testing Time, 2 hours per subject

#### Content

Cognitive Guidance

Simplified Language

### IEP-Driven Accommodations With Testing Implications:

* Blue Color Overlay: hexadecimal #B4DAEC
* Directions explained, as needed
* Noise-cancelling headphones with a choice of classical music options
* Picture communication symbols, paired with text
* Simplified directions, paired with picture symbols
* Simplified language
* Small group testing
* Visual and haptic prompts to stay on task. Brady uses a vibrating watch with a visible timer.

### Additional IEP-Driven Accommodations:

* Preferential seating near the teacher and away from visual and auditory distractions, as much as possible

### Questions and/or Required PNP Elements, Not Yet in Schema:

* Control: I am not sure if the “time multiplier” for Additional Testing Time should be 2.0 or 2 for 2 hours of additional time. Also, how do you specify which subject areas will require additional time?
* Control: Breaks – How will the PNP specifiy the number / frequency and duration of the breaks? (e.g. every 30 minutes, etc.)
* How do we specify the type of auditory background sounds?

### Sample PNP Code:

Not Valid

Required in Schema

Not in Schema - Jan’s Best Guess

Inclusion Order

<?xml version="1.0" encoding="UTF-8"?>

<accessForAllUser xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0 apipv1p0\_afapnpv2p0\_v1p0.xsd" xmlns="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0" xmlns:apip="http://www.imsglobal.org/xsd/apip/apipv1p0/imsapip\_pnpv1p0">

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</apip:additionalTestingTime>

<apip:breaks>

<apip:assignedSupport>true</apip:assignedSupport>

</apip:breaks>

</apip:apipControl>

</control>

<display>

<apip:apipDisplay>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:masking>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:maskingType>AnswerMask</apip:maskingType>

</apip:masking>

<apip:auditoryBackground>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

</apip:auditoryBackground>

</apip:apipDisplay>

<screenEnhancement>

<apip:apipScreenEnhancement>

<apip:colourOverlay>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:colour>B4DAEC</apip:colour>

</apip:colourOverlay>

</apip:apipScreenEnhancement>

</screenEnhancement>

</display>

</accessForAllUser>

English Language Learner

Rosa is an 11-year-old girl who recently immigrated from Mexico. She has a difficult time comprehending verbal instructions in English that are provided by her teacher. When trying to speak English, Rosa struggles to find the right words to communicate her thoughts. When she is given a reading passage in English, Rosa does not know many of the words or the context in which they are used. She may be able to figure out the main idea, but the detail-oriented questions are difficult for her to answer. Writing prompts that require a response in English are often followed by short sentences that lack much content. The difficulties Rosa experiences are due to her limited English vocabulary and limited exposure to the English language. Spanish is the predominate language spoken in the home, but she and her parents are enrolled in a conversational English class that is being offered in the evenings at her school. Rosa is classified as a student with Low English Proficiency and receives instruction in a bilingual classroom. When allowed to respond to concepts in Spanish, Rosa demonstrates content knowledge at grade level, both verbally and in writing.

### Inclusion Order:

Spoken: DirectionsOnly

### Accommodations in PNP:

#### Display

* NA

#### Control

* Additional testing time, 3.5 hours per subject

#### Content

* Spoken, Directions Only: human voice, medium recording speed
* Keyword Translation
* Item Translation
* Language Learner Guidance

### Instructional Strategies and Accommodations with Testing Implications:

* Directions read aloud in Spanish
* Directions explained in Spanish
* Instruction provided in Spanish and English
* Keyword translation
* Item translation for tests
* Word-by-word Spanish-to-English Dictionary
* Ability to write responses in Spanish and then attempt to translate them into English
* Shortened reading passages in English
* Reduced answer choices
* Additional time to complete assignments and tests

### Questions and/or Required PNP Elements, Not Yet in Schema:

* Content: Recording Speed (slow, medium or fast) – I am guessing it would be something like:

<spokenRecordingSpeed>Medium</spokenRecordingSpeed>

* I am not sure how to record access to a word-by-word Spanish-to-English Dictionary in the PNP.
* Reduced Answer Choices is in the Schema, but not a part of the [APIP 1.0 Conformance Table](http://www.imsglobal.org/apip/apipv1p0cf/APIPv1p0_Conf_v1p0cf.html). This will be something that this student would need.

### Sample PNP Code:

Not Valid

Required in Schema

Not in Schema - Jan’s Best Guess

Inclusion Order

<?xml version="1.0" encoding="UTF-8"?>

<accessForAllUser xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0 apipv1p0\_afapnpv2p0\_v1p0.xsd" xmlns="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0" xmlns:apip="http://www.imsglobal.org/xsd/apip/apipv1p0/imsapip\_pnpv1p0">

<content>

<apip:apipContent>

<apip:spoken>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:spokenSourcePreference>Human</apip:spokenSourcePreference>

<apip:readAtStartPreference>true</apip:readAtStartPreference>

<apip:spokenRecordingSpeed>Medium</apip:spokenRecordingSpeed>

<apip:userSpokenPreference>DirectionsOnly</apip:userSpokenPreference>

</apip:spoken>

<apip:itemTranslationDisplay xml:lang='es'>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

</apip:itemTranslationDisplay>

<apip:keywordTranslations xml:lang='es'>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>false</apip:activateByDefault>

</apip:keywordTranslations>

<apip:languageLearner>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

</apip:languageLearner>

</apip:apipContent>

</content>

<control>

<apip:apipControl>

<apip:additionalTestingTime>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:timeMultiplier>3.5</apip:timeMultiplier>

</apip:additionalTestingTime>

</apip:apipControl>

</control>

</accessForAllUser>

Low Vision – Albinism

Jesse is a 17-year-old student with Albinism, which affects his vision. He requires large print materials and prefers a 72 point, bold sans serif font, such as “Arial Black.” He is extremely sensitive to light and wears protective lenses to shade his eyes when he is outside. He also wears these lenses inside, unless the overhead lighting can be modified or turned off. Jesse needs preferential seating, so that he can see the teacher and any instructional materials that are projected. He uses his portable CCTV with a distance camera to see materials across the room. Jesse is provided access to electronic text in DAISY and ePub formats. He relies heavily on these formats because they provide navigation tools that allow him to keep pace with instruction in the classroom. He also uses the annotation and bookmarking tools available in these formats. Jesse is a proficient auditory learner, but prefers to read visually when trying to understand complex content or take tests. Jesse is gifted in the areas of math and science and participates in accelerated courses for these subjects. His goal is to become an electrical engineer. He uses a screen magnification tool to enlarge text and images on a computer and to modify his mouse pointer. He prefers 5x magnification, but may be able to see smaller text if his eyes are not fatigued and if he is able to adjust the foreground and background colors. Due to his light sensitivity, Jesse prefers a low luminance color contrast. His prefered combination is a background with hexidecimal #8A7C54 and a foreground with hexidecimal color #3C3624. The low contrast, combined with large print, keeps his eyes from fatigueing when reading long passages. Depending on the content he is trying to see and how fatigued his eyes are feeling, he may have to change his color selections in order to see details. Jesse needs to have graphics described with alternative text so that he can better orient himself to the graphic when it is enlarged at 5x. He needs extended time for tests because of the additional time it takes to perceive the content visually.

### Inclusion Order:

Spoken: GraphicsOnly

### Accommodations in PNP:

#### Display

* Foreground Color
* Background Color
* Magnification to at least 5x

#### Control

* Additional Testing Time

#### Content

* Alternative representations
* Spoken: GraphicsOnly, synthetic speech, fast recording speed

### IEP-Driven Accommodations With Testing Implications:

* Ability to customize font face
* Ability to customize foreground and background colors, based on the content being perceived and the environmental lighting
* Ability to fully navigate actionable items and all content by the keyboard, including the ability to move through text by text page, paragraph, line, sentence, and character
* Additional time for testing
* Dark glasses to protect from intense light and glare in testing environments
* Highlight / Annotate text in passages
* Highlight / Annotate text in passages
* Highlight key vocabulary
* Laptop computer with Bluetooth capability, wireless Internet access, and Microsoft Office
* Preferential seating to perceive anything within the testing environment that may affect performance
* Screen enlargement software with speech output and mouse pointer enhancement features

### Additional IEP-Driven Accommodations:

* Access to electronic text with keyboard navigation capabilities by chapter, page, paragraph, line, sentence, and character
* CCTV with OCR capabilities and a distance camera that can capture images of content presented during class.
* Dark glasses to protect from intense light and glare, both indoors and outdoors
* Portable scanner with OCR software to convert printed handouts into accessible text
* Preferential seating in the classroom

### Questions and/or Required PNP Elements, Not Yet in Schema:

* Content: Recording Speed (slow, medium or fast) – I am guessing it would be something like:

<spokenRecordingSpeed>Fast</spokenRecordingSpeed>

* I am not sure how to specify in the PNP that the student needs to be able to use the Screen Enlargement Software with Speech output and mouse enhancement features that he uses every day.
* I am not sure if “Additional Testing Time” should be 3.0 or just 3.

### Sample PNP Code:

Not Valid

Required in Schema

Not in Schema - Jan’s Best Guess

Inclusion Order

<?xml version="1.0" encoding="UTF-8"?>

<accessForAllUser xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0 apipv1p0\_afapnpv2p0\_v1p0.xsd" xmlns="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0" xmlns:apip="http://www.imsglobal.org/xsd/apip/apipv1p0/imsapip\_pnpv1p0">

<content>

<apip:apipContent>

<apip:spoken>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:spokenSourcePreference>Synthetic</apip:spokenSourcePreference>

<apip:readAtStartPreference>true</apip:readAtStartPreference>

<apip:spokenRecordingSpeed>Fast</apip:spokenRecordingSpeed>

<apip:userSpokenPreference>GraphicsOnly</apip:userSpokenPreference>

</apip:spoken>

<apip:alternativeRepresentations>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:alternativeRepresentationType>Text</apip:alternativeRepresentationType>

</apip:alternativeRepresentations>

</apip:apipContent>

</content>

<control>

<apip:apipControl>

<apip:additionalTestingTime>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:timeMultiplier>3.0</apip:timeMultiplier>

</apip:additionalTestingTime>

</apip:apipControl>

</control>

<display>

<screenEnhancement>

<magnification>5</magnification>

<apip:apipScreenEnhancement>

<apip:magnification>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

</apip:magnification>

<apip:backgroundColour>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:colour>8A7C54</apip:colour>

</apip:backgroundColour>

<apip:foregroundColour>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:colour>3C3624</apip:colour>

</apip:foregroundColour>

</apip:apipScreenEnhancement>

</screenEnhancement>

</display>

</accessForAllUser>

Traumatic Brain Injury

Maggie is a student in fourth grade who sustained a head injury in a car accident before the age of two. As a result of her injury, Maggie has lost motor function on the right side of her body. She is able to walk, but her gait is unstable. She needs adapted seating in the classroom to stabilize her trunk and provide her with the support she needs to manage her classroom materials. She is able to write with a pencil, using her left hand, but she cannot effectively secure her paper with her right hand. She also fatigues very quickly with paper/pencil tasks and is unable to complete lengthy writing or reading assignments without the use of a computer or tablet with word prediction and text-to-speech software.

Maggie has difficulty maintaining attention to task and has limited working memory. Teachers provide Maggie with consistant repetition in instruction and incorporate checklists and mnemonic tools to assist with memory. Maggie can complete grade-level work in all subject areas, but she relies on the use of the mnemonic supplemental aids and checklists to outline the steps she needs to follow. Due to physical and mental fatigue that occurs from extended learning and testing activities, she needs frequent breaks. Maggie wears noise-cancelling headphones when working independently. She also uses a vibrating watch to remind her to remain on task.

Maggie performs better on class assignments when text is read outloud to her and she can follow along with word-by-word highlighting. She also benefits from increased white space, small chunks of text, and explanations for graphics. These supports help her understand and maintain content better than if she has to read blocks of text without text-to-speech and synchronized highlighting. For this reason, Maggie is provided with access to DAISY and ePub formatted materials. Maggie also needs directions explained in simple language and requires extended time to complete class work and tests.

### Inclusion Order:

Spoken: TextGraphics

### Accommodations in PNP:

#### Display

* Answer masking

#### Control

* Breaks
* Additional Testing Time
* Line Reader, hexadecimal number FFFF00

#### Content

* Cognitive Guidance
* Keyword Emphasis
* Alternative Representations
* Spoken: TextGraphics, synthetic speech, medium recording speed
* Simplified Language

### IEP-Driven Accommodations With Testing Implications:

* Ability to highlight and annotate text
* Ability to navigate text by chapter, page, paragraph, sentence, word, and character
* Access to electronic text
* Adapted seating accommodations
* Adapted writing / typing surface to optimize access and reduce physical fatigue
* Additional Testing Time
* Breaks during tests
* Checklists of single steps for task completion
* Computer-based phonetic spell check tool
* Directions explained, as needed
* Directions provided in simplified language
* Electronic dictionary
* Highlighting key vocabulary
* Increased white space between lines of text
* Laptop computer with Bluetooth capability, wireless Internet access, and Microsoft Office
* Limit the amount of hand written work required
* Line reader / Masking capability
* Mnemonic supplemental aids
* Noise-cancelling headphones
* Text-to-Speech software
* Vibrating watch to prompt on-task behavior
* Word prediction software

### Additional IEP-Driven Accommodations:

* Breaks during lengthy assignments
* Extra time to complete assignments
* Verbal and proximity prompts from instructional staff
* Vibrating watch to prompt on-task behavior

### Questions and/or Required PNP Elements, Not Yet in Schema:

* Content: Recording Speed (slow, medium or fast) – I am guessing it would be something like:

<spokenRecordingSpeed>Medium</spokenRecordingSpeed>

* Control: Breaks – How will the PNP specifiy the number / frequency and duration of the breaks? (e.g. every 30 minutes, etc.)

### Sample PNP Code:

Not Valid

Required in Schema

Not in Schema - Jan’s Best Guess

Inclusion Order

<?xml version="1.0" encoding="UTF-8"?>

<accessForAllUser xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0 apipv1p0\_afapnpv2p0\_v1p0.xsd" xmlns="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0" xmlns:apip="http://www.imsglobal.org/xsd/apip/apipv1p0/imsapip\_pnpv1p0">

<content>

<apip:apipContent>

<apip:spoken>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:spokenSourcePreference>Synthetic</apip:spokenSourcePreference>

<apip:readAtStartPreference>true</apip:readAtStartPreference>

<apip:spokenRecordingSpeed>Medium</apip:spokenRecordingSpeed>

<apip:userSpokenPreference>TextGraphics</apip:userSpokenPreference>

</apip:spoken>

<apip:simplifiedLanguage>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

</apip:simplifiedLanguage>

<apip:alternativeRepresentations>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:alternativeRepresentationType>Text</apip:alternativeRepresentationType>

</apip:alternativeRepresentations>

<apip:cognitiveGuidance>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

</apip:cognitiveGuidance>

<apip:keywordEmphasis>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

</apip:keywordEmphasis>

</apip:apipContent>

</content>

<control>

<apip:apipControl>

<apip:additionalTestingTime>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:timeMultiplier>Unlimited</apip:timeMultiplier>

</apip:additionalTestingTime>

<apip:breaks>

<apip:assignedSupport>true</apip:assignedSupport>

</apip:breaks>

<apip:lineReader>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:colour>FFFF00</apip:colour>

</apip:lineReader>

</apip:apipControl>

</control>

<display>

<apip:apipDisplay>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:masking>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:maskingType>AnswerMask</apip:maskingType>

</apip:masking>

</apip:apipDisplay>

</display>

</accessForAllUser>

Hard-of-Hearing (HH) – Fluent in ASL

Chris is a 6th-grade student with autosomal dominant deafness. He was fitted with hearing aides as an infant and was able to learn some speech through interaction with teachers and children in early childhood programs. Even so, speech is not a functional form of communication for Chris. Both parents are deaf, so Chris is fluent in the use of American Sign Language (ASL) and he prefers ASL over speaking or writing in English. Due to the differences in language structure between ASL and written English, Chris has difficulty with reading and writing assignments. With his hearing aids, Chris is able to perceive human voice recordings of text. His reading comprehension is improved when Chris has access to text, combined with a human voice recording of the passage, and ASL video interpretation. He is receiving bilingual services and is making progress with writing, but is still functioning below grade level. He is able to read at grade level, but he requires additional time to complete his reading assignments. When presented with captioned content on a computer, Chris often has difficulty reading in sync with the captions. He will pause and replay captioned content to compensate for his reading speed. When allowed to provide his answers with ASL, Chris demonstrates knowledge at or above grade level in all core academics, except Language Arts.

### Inclusion Order:

Signing Type: ASL

### Accommodations in PNP:

#### Display

* Not Applicable

#### Control

* Breaks
* Additional Testing Time

#### Content

* Language Learner Guidance
* Keyword Emphasis
* Alternative Representation (ASL video)
* Keyword Translation
* Item Translation
* Signing (signingType: ASL)
* Spoken TextGraphics, human voice, medium recording speed

### IEP-Driven Accommodations With Computer-Based Testing Implications:

* Able to respond to test items via ASL to ASL Interpreter (transcription services)
* Access to electronic text with human voice recordings and ASL video support
* ASL video with timeline tagging
* Captioned video with timeline tagging
* Directions explained on tests as needed
* Directions translated into ASL
* Hearing Aids
* Human ASL interpretation during tests
* Item content translated into ASL
* Keywords translated into ASL

### Additional IEP-Driven Accommodations:

* Human ASL interpretation during classroom instruction

### Questions and/or Required PNP Elements, Not Yet in Schema:

* Content: How do you specify that ASL is the inclusion order, rather than Spoken: TextGraphics?
* Content: Recording Speed (slow, medium or fast) – I am guessing it would be something like:

<spokenRecordingSpeed>Medium</spokenRecordingSpeed>

* Control: Breaks – How will the PNP specifiy the number / frequency and duration of the breaks? (e.g. every 30 minutes, etc.)
* What is the XML Language declaration for ASL? Is it just lang=’asl’?
* How do I represent alternative representation as being an ASL video?

Best guess is: <apip:alternativeRepresentationType>Video</apip:alternativeRepresentationType> but there would need to be some way to specify that it’s an ASL video?

### Sample PNP Code:

Not Valid

Required in Schema

Not in Schema - Jan’s Best Guess

Inclusion Order

<?xml version="1.0" encoding="UTF-8"?>

<accessForAllUser xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0 apipv1p0\_afapnpv2p0\_v1p0.xsd" xmlns="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0" xmlns:apip="http://www.imsglobal.org/xsd/apip/apipv1p0/imsapip\_pnpv1p0">

<content>

<apip:apipContent>

<apip:signing>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:signingType>ASL</apip:signingType>

</apip:signing>

<apip:spoken>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:spokenSourcePreference>Human</apip:spokenSourcePreference>

<apip:readAtStartPreference>true</apip:readAtStartPreference>

<apip:spokenRecordingSpeed>Medium</apip:spokenRecordingSpeed>

<apip:userSpokenPreference>TextGraphics</apip:userSpokenPreference>

</apip:spoken>

<apip:alternativeRepresentations>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:alternativeRepresentationType>Video</apip:alternativeRepresentationType>

</apip:alternativeRepresentations>

<apip:keywordEmphasis>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

</apip:keywordEmphasis>

<apip:itemTranslationDisplay xml:lang='asl'>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

</apip:itemTranslationDisplay>

<apip:keywordTranslations xml:lang='asl'>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>false</apip:activateByDefault>

</apip:keywordTranslations>

<apip:languageLearner>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

</apip:languageLearner>

</apip:apipContent>

</content>

<control>

<apip:apipControl>

<apip:additionalTestingTime>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:timeMultiplier>Unlimited</apip:timeMultiplier>

</apip:additionalTestingTime>

<apip:breaks>

<apip:assignedSupport>true</apip:assignedSupport>

</apip:breaks>

</apip:apipControl>

</control>

</accessForAllUser>

Blind – Braille User

Debra is college-bound tenth-grader who is a proficient Braille user. She is also proficient with a variety of assistive technologies, including a screen reader and refreshable braille display on a Windows desktop computer, a Braille embosser, a talking calculator, and an iPad with iOS accessibility features, including VoiceOver. Debra is highly skilled with technology and can learn new skills quickly. When doing math assignments, Debra prefers to use hard-copy Braille, but is also proficient with a refreshable Braille display with auditory support from a screen reader. Even so, when completing assignments that include the interpretation and/or creation of graphs, Debra needs hard-copy tactile graphics and the ability to emboss the graphs she creates. Without this support, it is very difficult for her to keep up with class assignments because it takes her longer to finish the work and she has a more difficult time understanding the concepts. She also prefers tactile graphics for content such as maps or venn diagrams. Debra is currently learning how to use a talking graphing calculator that has the ability to send graphs to a Braille embosser.

### Inclusion Order:

Braille

### Accommodations in PNP:

#### Display

* Braille
* brailleGrade = contracted
* numberOfBrailleDots = 8
* numberOfBrailleCells = 40
* brailleDotPressure = 0.7
* brailleStatusCell = left

#### Control

* Breaks
* Additional Testing Time

#### Content

* Alternative Representations
* Spoken: Nonvisual, synthetic speech, fast recording speed

### IEP-Driven Accommodations With Computer-Based Testing Implications:

* 18-cell Portable Braille notetaker
* 40-cell Refreshable Braille Display
* Braille embosser
* Breaks during tests
* Extended time to complete tests
* Laptop computer with Bluetooth capability, wireless Internet access, and Microsoft Office
* Printed Tactile Graphics for content requiring visual interpretation
* Screen reader software
* Support services from a teacher of the visually impaired for training on specialized equipment and adapting instructional materials
* Talking graphing calculator, with ability to print to embosser

### Additional IEP-Driven Accommodations:

* Scanner with OCR capabilities
* Talking graphing calculator, with ability to print to embosser

### Questions and/or Required PNP Elements, Not Yet in Schema:

* Content: How do you specify that Braille is the inclusion order, rather than Spoken: Nonvisual? I am assuming that <brailleGrade>contracted</brailleGrade> is the tag that would specify the “inclusion order,” but I don’t know for sure.
* Content: Recording Speed (slow, medium or fast) – I am guessing it would be something like:

<spokenRecordingSpeed>Fast</spokenRecordingSpeed>

* Control: Breaks – How will the PNP specifiy the number / frequency and duration of the breaks? (e.g. every 30 minutes, etc.)
* How do I represent in the PNP that this student needs tactile graphics? My understanding of the “tactile” element is that it is referring to technologies that provide tactile feedback, rather than companion materials.
* The Braille Schema indicates that “brailleMark, brailleDotPressure, brailleStatusCell, apip:assignedSupport, and apip:activateByDefault” are “required,” but there is no sample code in the super example for most of these. “Braille Mark” is supposed to indicate emphasis for highlight, bold, underline, italic, strikeout, and colour, but the Braille codes for various languages do not have a way to symbolize this: See [http://www.w3.org/WAI/PF/braillecss.html - section 3.9](http://www.w3.org/WAI/PF/braillecss.html%20-%20section%203.9). English Braille only has representations for itallics and bold. I am not sure how to indicate, “brailleMark.” I am assuming it would refer to a Braille Language and the state of contraction, such as:

<brailleMark>English Contracted</brailleMark>, but beyond that, I don’t know what the other attributes would be.

### Sample PNP Code:

Not Valid

Required in Schema

Not in Schema - Jan’s Best Guess

Inclusion Order

<?xml version="1.0" encoding="UTF-8"?>

<accessForAllUser xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0 apipv1p0\_afapnpv2p0\_v1p0.xsd" xmlns="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0" xmlns:apip="http://www.imsglobal.org/xsd/apip/apipv1p0/imsapip\_pnpv1p0">

<content>

<apip:apipContent>

<apip:spoken>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:spokenSourcePreference>Synthetic</apip:spokenSourcePreference>

<apip:readAtStartPreference>true</apip:readAtStartPreference>

<apip:spokenRecordingSpeed>Fast</apip:spokenRecordingSpeed>

<apip:userSpokenPreference>TextGraphics</apip:userSpokenPreference>

</apip:spoken>

<apip:alternativeRepresentations>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:alternativeRepresentationType>Text</apip:alternativeRepresentationType>

</apip:alternativeRepresentations>

</apip:apipContent>

</content>

<control>

<apip:apipControl>

<apip:additionalTestingTime>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:timeMultiplier>Unlimited</apip:timeMultiplier>

</apip:additionalTestingTime>

<apip:breaks>

<apip:assignedSupport>true</apip:assignedSupport>

</apip:breaks>

</apip:apipControl>

</control>

<display>

<braille>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<brailleGrade>contracted</brailleGrade>

<numberOfBrailleDots>8</numberOfBrailleDots>

<numberOfBrailleCells>40</numberOfBrailleCells>

<brailleMark>English Contracted</brailleMark>

<brailleDotPressure>0.7</brailleDotPressure>

<brailleStatusCell>left</brailleStatusCell>

</braille>

</display>

</accessForAllUser>

Specific Learning Disability in Math (Dyscalculia)

Alex is a fifth-grade student who was recently diagnosed with a learning disability in math. He has difficulty remembering concepts related to calculations and time. When provided with direct instruction and repitition, Alex can complete math calculations, but without daily exposure to the same concept, he is unable to retain what he has learned and is unable to generalize skills to apply to new concepts. Teachers are providing Alex with math manipulatives to help make abstract concepts more concrete. They are also giving him opportunities to practice learned concepts on a daily basis with warm-up activity pages. During instruction and on standardized tests, Alex is allowed to mask sections of the question and answer choices to reduce confusion. He is also allowed to use supplemental aids to support addition and subtraction concepts, including grid graphic organizers, mnemonic tools, graph paper, and place value supports. Alex is also allowed to have directions and graphics explained to him. Alex performs better when assignments are scaffolded, allowing him to perform calculations he has previously mastered and working sequentially to more complicated skills. By completing calculations of simpler skills and slowly adding additional complexities to his homework assignments, Alex is beginning to maintain concepts longer and is gaining confidence in his ability to solve complex math problems.

### Inclusion Order:

Spoken: GraphicsOnly

### Accommodations in PNP:

#### Display

Masking

#### Control

Additional Testing Time

#### Content

* Cognitive Guidance
* Keyword Emphasis
* Alternative Representations
* Spoken: GraphicsOnly, synthetic speech, slow recording speed

### IEP-Driven Accommodations With Computer-Based Testing Implications:

* Additional testing time
* Answer masking on tests
* Calculator allowed for tests
* Directions explained, as needed
* Graph paper for keeping numbers aligned on hand-written work
* Graphics explained, as needed
* Grid graphic organizers
* Key terminology defined
* Key terminology highlighted in word problems
* Math manipulatives
* Mnemonic tools to support memory of concepts
* Reduced answer choices on math tests
* Scaffolded tests where simpler problems come first
* Supplemental place value supports

### Additional IEP-Driven Accommodations:

* Preferential seating near the teacher
* Scaffolded instruction that uses warm-up activities / problems to review previously mastered skills before adding additional concepts
* Small group math instruction

### Questions and/or Required PNP Elements, Not Yet in Schema:

* Content: Recording Speed (slow, medium or fast) – I am guessing it would be something like:

<spokenRecordingSpeed>Slow</spokenRecordingSpeed>

* Content: “Scaffolding” is part of the schema, but is not available in version 1.0. I am not sure what the attributes would need to be, but I would assume that you would need to specify skill sets to use in the scaffolding (e.g. two-digit addition, two-digit subtraction, single-digit multiplication, etc.). For now, even though this is a major need for this student, I am not going to attempt to guess at how this would be included in the PNP.
* How will custom masking be specified? The APIP Conformance Table only has options for “answer masking” and “masking.” Schema lists Masking types as: xs:string (default), xs:positiveInteger, xs:QName, xs:short, xs:time. My best guess is:

<apip:maskingType>CustomMasking</apip:maskingType>

### Sample PNP Code:

Not Valid

Required in Schema

Not in Schema - Jan’s Best Guess

Inclusion Order

<?xml version="1.0" encoding="UTF-8"?>

<accessForAllUser xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0 apipv1p0\_afapnpv2p0\_v1p0.xsd" xmlns="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0" xmlns:apip="http://www.imsglobal.org/xsd/apip/apipv1p0/imsapip\_pnpv1p0">

<content>

<apip:apipContent>

<apip:spoken>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:spokenSourcePreference>Synthetic</apip:spokenSourcePreference>

<apip:readAtStartPreference>true</apip:readAtStartPreference>

<apip:spokenRecordingSpeed>Slow</apip:spokenRecordingSpeed>

<apip:userSpokenPreference>GraphicsOnly</apip:userSpokenPreference>

</apip:spoken>

<apip:alternativeRepresentations>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:alternativeRepresentationType>Text</apip:alternativeRepresentationType>

</apip:alternativeRepresentations>

<apip:cognitiveGuidance>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

</apip:cognitiveGuidance>

<apip:keywordEmphasis>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

</apip:keywordEmphasis>

</apip:apipContent>

</content>

<control>

<apip:apipControl>

<apip:additionalTestingTime>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:timeMultiplier>2.5</apip:timeMultiplier>

</apip:additionalTestingTime>

</apip:apipControl>

</control>

<display>

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<apip:masking>

<apip:assignedSupport>true</apip:assignedSupport>

<apip:activateByDefault>true</apip:activateByDefault>

<apip:maskingType>CustomMask</apip:maskingType>

</apip:masking>

</apip:apipDisplay>

</display>

</accessForAllUser>

Complete C8 Spinal Cord Injury

Jeff is a college-bound, ninth grade student who was in a severe automobile accident during his seventh-grade year. He suffered a Complete C8 Spinal Cord Injury (SCI) and has permanent loss of motor abilities in his legs and severe fine motor limitations in his hands. Due to his motor limitations, Jeff is classified as a student with quadriplegia. He has normal arm function and is able to maneuver a manual wheelchair. He will be learning to drive an adapted automobile during his Sophomore year. Jeff is on track to graduate with his grade-level peers and is taking advanced courses in History and English. Jeff is given access to electronic textbooks in DAISY or ePUB formats and his teachers provide him with electronic copies of all supplemental handouts. He performs well in all of his classes, but his fine motor limitations prohibit him from completing written work without technology supports. Jeff is a proficient user of an assistive technology application called Dragon Naturally Speaking. Dragon is a voice recognition application that is loaded onto a laptop computer. It allows Jeff to control his computer, using only voice commands and dictate his written work directly into standard applications such as Microsoft Office, Excel, and Outlook. Current testing policies allow speech-to-text (STT) / voice recognition technologies to be used by qualifying students during high stakes assessments. Jeff is able to perform independently on computer-based tests, as long the test is compatible with Dragon Naturally Speaking and his voice files can be transferred to the computer he will use for testing.

### Inclusion Order:

Not Applicable

### Accommodations in PNP:

#### Display

Not applicable

#### Control

Additional Testing Time

#### Content

Not Applicable

### IEP-Driven Accommodations With Testing Implications:

* Ability to highlight, annotate and bookmark text
* Ability to navigate text by chapter, page, paragraph, line, sentence, and character
* Adapted Seating for time spent out of the wheelchair
* Additional Testing Time
* Dedicated test room and proctor so that he can use his voice recognition software
* Headset with microphone
* Laptop computer with Bluetooth capability, wireless Internet access, and Microsoft Office
* Voice Recognition Software

### Additional IEP-Driven Accommodations:

* Access to a printer in all class environments
* Access to a study room where he can go to use his voice recognition software without disrupting other students
* Electronic Textbooks – DAISY or ePub formatted
* Manual Wheelchair

### Questions and/or Required PNP Elements, Not Yet in Schema:

* Control: Not sure whether the time multiplier should be represented as 3.0 or just 3.

### Sample PNP Code:

Not Valid

Required in Schema

Not in Schema - Jan’s Best Guess

Inclusion Order

<?xml version="1.0" encoding="UTF-8"?>

<accessForAllUser xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0 apipv1p0\_afapnpv2p0\_v1p0.xsd" xmlns="http://www.imsglobal.org/xsd/apip/apipv1p0/imsafa\_pnpv2p0" xmlns:apip="http://www.imsglobal.org/xsd/apip/apipv1p0/imsapip\_pnpv1p0">

<control>

<apip:apipControl>

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<apip:assignedSupport>true</apip:assignedSupport>

<apip:timeMultiplier>3.0</apip:timeMultiplier>

</apip:additionalTestingTime>

</control>

</accessForAllUser>