

Providing access to Common Core Language Arts Standards to Students who use Augmentative and Alternative Communication (AAC)

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Document Purpose

The purpose of this document is: a) to highlight the significance of communication in accessing the core curriculum language arts standards, and b) to provide examples of the manner in which students with complex communication needs (CCN) can access robust, rigorous, standards-based instruction when provided with augmentative and alternative communication (AAC). Children with disabilities who have complex communication needs must have access to augmentative and alternative communication systems so that they may have the knowledge and skills needed for success in college and careers, just like their typically-developing peers.

Standard-based Education

In 1983, the National Commission on Excellence in Education issued “A Nation at Risk: The Imperative for Education Reform.” It was as a result of the Commission’s recommendation that states began to implement a standards- based education system (US Department of Education, 2008). The standards can be considered a framework by which school districts develop their own curriculum in the different core areas. In July 2010, Connecticut adopted the Common Core State Standards (CCSS). The CCSS provide a consistent and clear understanding of what students are expected to learn, The standards are based on evidence and research, and are reflective of the knowledge and skills that students need to be successful in college and at work.

Standards-based Education and Students with Disabilities

The CCSS are considered the foundation of education for students with disabilities and provide the opportunity to improve access to rigorous academic content. If students with disabilities are expected to meet high academic standards and fully demonstrate their conceptual and procedural knowledge of the standards, then their instruction must include supports and accommodations (www.corestandards.org). The core standards also specify that some students may require substantial supports based on their communication and academic needs to access multiple means of learning and opportunities to demonstrate knowledge. .

Significance of Communication for Students with Disabilities

Communication pervades all aspect of education (Calculator, 2009). Participation in educational activities necessitates the use of spoken and written communication, two modalities that most students take for granted. Students with disabilities may not be able to communicate via the above mentioned typical means, but they have the legal right to be in classrooms and benefit from the education experiences (Individuals with Disabilities Education Improvement Act of 2004 (IDEIA)).

Students with developmental disabilities such as autism, cerebral palsy, Down syndrome, intellectual disability and acquired disabilities (traumatic brain injuries) are in classrooms accessing general curriculum content along with their non-disabled peers. However, their access and participation is dependent upon their communication abilities Augmentative and alternative communication can provide the support these students need in order to benefit from educational activities. Simply put, AAC

are ways of helping people who find it hard to communicate by speech or writing. Examples of AAC include the use of body language, gestures, vocalizations, objects, pictures, words and speech-generating devices.

Placement of students with CCN in the general education classrooms is no longer the only goal; their education experiences must be enriched by having high expectations and they should be able to access the general curriculum to the maximum extent possible. Augmentative and alternative communication can make these goals attainable.

Language Art Standards, Communication Behaviors, and AAC

All of the Language Arts Common Core State Standards (i.e., elementary, middle or high school) have a communication component. The standards emphasize the development and use of oral communication, which when considered for students with CCN emphasize the significance of AAC. The standards assume that students are proficient in what Light (1988, 1997, 2003) has termed “Purposes of Interaction”. Communication and social behaviors for typically-developing students often take for granted and may not be explicitly taught. For example, it is assumed that typically-developing students will participate in educational activities via spoken and written communication allowing their educational experience to focus on expanding the skills rather than developing them. This assumption does not hold true for children with CCN, as their linguistic skills (receptive and expressive) are dependent upon availability and use of an AAC system. Students who require AAC may not be able to develop and expand their skills unless they have access to an AAC system. Therefore, some children who use AAC may be learning communication skills as well as expanding upon them. Table 1 demonstrates the prevailing link between the “Purposes of Interaction” and access to the language arts standards.

Table 1: An Example of Common Core State Standards for English Language Arts and Purposes of Interaction

Grade 2	Grade 7	Grade 11	Purposes of Interaction
Speaking and Listening: Comprehension and Collaboration			
2.SL.2 Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.	7.SL.2 Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.	11.SL.2 Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.	Attend to partner's comments, questions and actions Identify and fulfill opportunities to communicate Resolve conflicts appropriately Attend to comments and questions Identify appropriate opportunities to ask questions or share
2.SL.3 Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.	7.SL.3 Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.	11.SL.3 Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.	information on a topic (e.g., following partner's questions or following a pause in the discussion) Produce a contingent response to the partner's questions or produce appropriate comments or questions
Speaking and Listening: Presentation of Knowledge and Ideas			
2.SL.6 Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See Language Standards 2.L.1 and 2.L.3 for specific expectations)	7.SL.6 Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See Language Standards 7.L.1 and 7.L.3 for specific expectations)	11.SL.6 Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate. (See Language Standards 11.L.1 and 11.L.3 for specific expectations.)	Add additional relevant information to develop a topic Initiate new topics as appropriate Confirm and /or clarify Participate in interactions Fulfill demands of interactions Terminate interactions

An AAC system can range from low to high tech and can be comprised of objects, pictures or words. The type of AAC system a student will use will depend upon the student's abilities and needs. As Blockenberger and Sutton (2003) point out, children who require AAC are an extremely heterogeneous group and their AAC system must be designed taking into consideration their physical skills (gross and fine motor), cognitive skills, language skills (receptive and expressive language), literacy skills (reading and writing), and sensory skills as well environmental and curricular demands. A multidisciplinary team of comprising of the student, family members, speech-language pathologist, special educators, general educators, occupational therapist, and physical therapist etc., must be involved in assessment, selection design and maintenance of the AAC system¹.

¹ Information on designing AAC systems is beyond the scope of this document.

Symbolic Level of Understanding and Communication Level

A student’s symbolic and communication level will to an extent determine the components of the AAC system (vocabulary, representation, layout etc.). In order to create a link between the standards and the communication component we adapted the levels of symbolic understanding proposed by Browder and colleagues (Browder et al., 2007; Browder, Ahlgrim-Delzell, Courtade-Little, & Snell, 2006; Browder, D. Wakeman, S. & Flowers, 2006). Browder and colleagues propose a hierarchy of five levels of symbolic levels in order to create access to the general education curriculum (Browder et al., 2007). The five levels of symbolic understanding are a) typical, b) abstract symbol, c) concrete symbol, d) pre-symbolic and e) awareness. A child’s symbolic level of understanding is often demonstrated by his or her communication ability. Table 2 details the symbolic level and the typical communication behavior demonstrated at that particular level.

Table 2: Symbolic Levels and Communication Behaviors Exhibited

Symbolic Level	Communication Level	Typical Communicative Behavior
Typical	Communicates at the age-appropriate level	Uses multi word complex sentences
Abstract Symbol	Abstract symbolic communication Ranging from one word to multi word utterances	Uses vocabulary of signs, pictures and/or, words to communicate. Recognizes sight words, numbers, etc.
Concrete Symbol	Concrete symbolic communication	Beginning to use pictures or other symbols to communicate within a limited vocabulary
Pre-symbolic	Unconventional and conventional communication	Communicates with gestures, eye gaze, purposefully moving to object and sounds; Communicates by crying, vocalizing,
Awareness	Pre-intentional and intentional communication	Has no clear response and no objective in communication Communicates by crying, vocalizing.

In order to access the common core standards, students with CCN may require curricular accommodations and modifications² so that they can benefit from the curriculum. In designing the accommodations and modifications the following factors, as discussed above, must be taken in to consideration: the student’s abilities and needs, the curricular demands at any given time, and the student’s symbolic and communication levels. These accommodations and modifications should be noted in the student’s individualized education program (IEP). The student’s AAC system for must be designed not only to meet the demands and challenges of the curriculum but also to support personal and social communication needs.

In Table 3 we provide examples of AAC systems designed for students at different symbolic and communication levels. It is to be assumed that the curricular accommodations and/or modifications that students need to access, participate and progress are already in place and therefore not specified.

² It is beyond the scope of this document to provide information on accommodations and modifications, but it is suggested that readers familiarize themselves with these terms as the two are often used interchangeably even though they are very different.

Table 3

Symbolic Level	Communication Level	Typical Communicative Behavior	Examples of How Student Accesses CCSS	Communication Goal	Communication System	Notes
Typical	Communicates at the age-appropriate level	Uses multi-word complex sentences	Communicates as described by grade-level standard	Same as typical peers	<p>AAC system</p> <ul style="list-style-type: none"> • Can be low tech or high tech³ • Will have many 'pages' • Vocabulary will be represented via words and letters • Will have vocabulary that enables the student to participate in a variety of situations • Will have vocabulary that will enable the student to meet the above-mentioned language standards • Will have vocabulary that relates to the lesson/ chapter/ book • Vocabulary will be added as per the content and the goals 	Student may have gaps, but is expected to perform at grade level.
Abstract Symbol	Abstract symbolic communication Ranging from one word to multi word phrases	Uses vocabulary of signs, pictures and/or words to communicate. Recognizes sight words, numbers, etc.	Reads sight words Has large picture vocabulary Recognizes numbers Can write or use graphic representation for writing	Increasing vocabulary Applying symbols to wide range of grade-level content	<p>AAC system</p> <ul style="list-style-type: none"> • Can be low or high tech • Can have many pages • Vocabulary can be represented via pictures and words • Will have vocabulary that can express a wide range of concepts • Will have vocabulary that is relevant for academic and social context/ content 	
Concrete Symbol	Concrete symbolic communication	Beginning to use pictures or other symbols to communicate within a limited vocabulary	Uses small picture vocabulary system May recognize a few specific numbers (e.g., age) May recognize a few specific letters (e.g., first letter of name) May use graphic representations to write simple	Acquiring new symbols that can be "pivotal" and used across content Showing as much understanding as possible with current symbol system	<p>AAC system</p> <ul style="list-style-type: none"> • Can be low or high tech • Can have many pages • Vocabulary will can be represented be represented pictures/ photographs and some words • Will have vocabulary that can express a wide range of concepts • Will have vocabulary that is relevant for academic and social context/ content 	

³ This document provides examples of low-tech communication systems

			sentences			
Presymbolic	Unconventional and conventional communication	Communicates with gestures, eye gaze, purposeful moving to object and sounds Communicates by crying, vocalizing	Shows understanding and is intentional in communication efforts using objects, movement, sound Will be learning first symbols concurrent with content learning	Showing understanding concretely (non-print) Acquiring first symbols concurrent with content	AAC system <ul style="list-style-type: none"> • Can be low or high tech • Vocabulary will be represented via photographs and pictures that relate closely to concrete • Will have vocabulary that can express some concepts • Will have vocabulary that is relevant for personal and social contexts and can be linked to academic content 	
Awareness	Pre-intentional and intentional communication	Has no clear response and no objective in communication Communicates by crying, vocalizing	Inconsistent in showing intentionality of communication (e.g., crying may be general discomfort vs. requesting food) Difficulty to consistently interpret intent or meaning of movements, sounds, eye gaze	Showing reaction to activity through opening eyes, sounds, increased alertness Increasing focus of attention and general responding	AAC system Can be low or mid tech Vocabulary will be represented via objects and photographs Will have vocabulary that can express concepts related to making personal connection to the academic content	

Adapted from Browder, Wakeman, Flowers, Rickelman, Pugalee, & Karvonen, (2006)

Elementary Example: The story of Ruby Bridges

Awareness: If a student is at this level, the communication system may include objects related to the text (e.g., an African American doll, model of school), photographs of self, family members, or people in the immediate environment. Using the communication system the student will make connections to self and to the environment. The student will point to objects and look at photographs with adults who will converse about the student, and things and people in the environment related to the school experience.

Pre-Symbolic: If a student is at this level, the communication system includes photographs related to the text (e.g., from the Ruby Bridges book). The student will use the photographs to a) provide key ideas of the story (e.g., point to key characters, places, etc. related to the book), b) answer questions and comment on the book. The student may access the materials through a teacher-made book with photographs from the story. Figure 1 provides an example of a multipage communication board using pictures from an illustrated book on Ruby Bridges. A student will fulfill the communication demands by pointing to the communication board.

Figure 1 a.

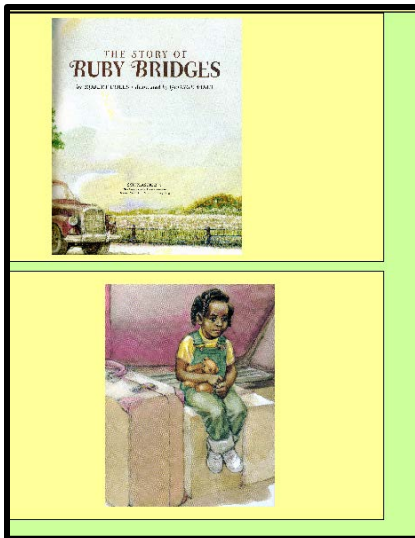
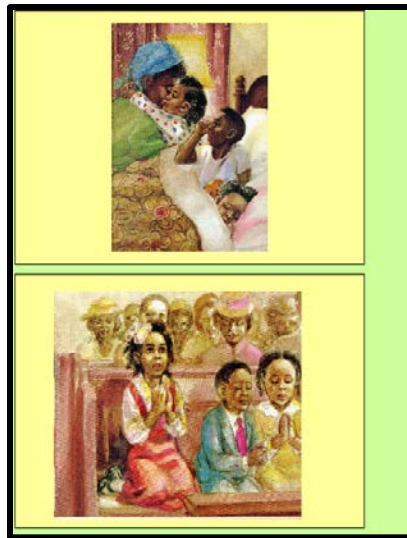


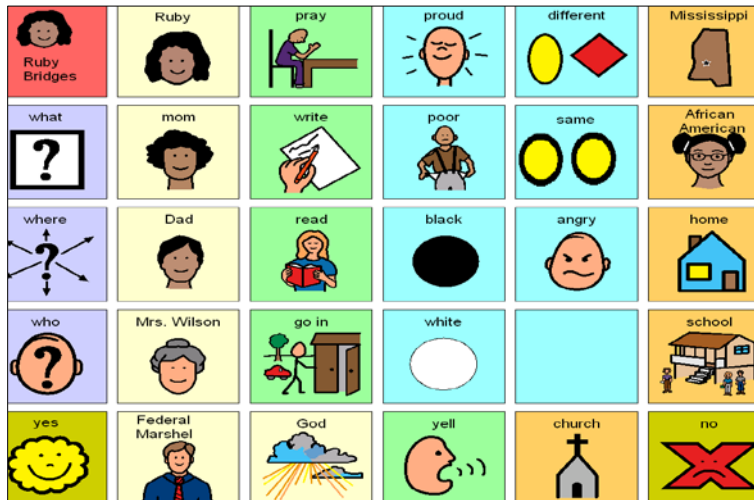
Figure 1 b.



Communication display based on Ruby Bridges. Created using pictures from the book Ruby Bridges by Robert Coles, illustrated by George Ford © 1995 Scholastic. Printed with permission

Concrete Symbol: This communication system may include symbols of characters, places, events, and actions related to the text. The student will use the communication system to a) describe key ideas or details, b) ask and answer questions, and c) provide additional information. Figure 2. provides an example of a picture based communication display that a student can use to participate in the classroom. The vocabulary has been chosen to enable a student to answer questions, describe key ideas and provide additional information about the text

Figure 2. ([Click](#) to view in larger size)



Communication display based on Ruby Bridges. Created using Picture Communication Symbols. The Picture Communication Symbols © 1981-2011 by DynaVox Mayor-Jhonson LLC. All Rights Reserved Worldwide. Printed with Permission.

Abstract Symbol: This communication system may include symbols and words related to the text. Student will use the communication system to a) describe key ideas or details, b) ask and answer questions about provide additional information, and c) use multi-word sentences. Below is an example of a communication board created that would enable a student to participate in the lesson on Ruby Bridges and fulfill the above-mentioned communication demands (Figures 3 a & b). Please note that the communication system includes letters, some words and pictures. The words on the letter page are from the list of the most frequently used words in the English language (Fry & Kress, 2006). The page on Ruby Bridges has vocabulary from the lesson. This page has pictures and a few words. The vocabulary for a student who is at the abstract level will depend upon the student’s abilities as this level and includes students whose symbolic communication ranges from one word to multi-word utterances. We have left room for vocabulary items to be added so that the communication board can be individualized to the needs of the student. The example provided below is for a student who is beginning to communicate at a multi-word level. The student at this level has sight vocabulary and this is reflected in the words on the letter page.

Figure 3 a.

the	of	and	a	in	is	you	that		
it	for	on	are	as	with	his	they		
I	at	be	this	have	from	or	one		
had	by	word	not	all	were	we	your		
1	2	3	4	5	6	7	8	9	0
q	w	e	r	t	y	u	i	o	p
a	s	d	f	g	h	j	k	l	
z	x	c	v	b	n	m	,	.	?
YES	Finish	I don't know	I know	Start Over					NO

Figure 3 b.

Ruby Bridges	Ruby	born	think	poor	proud	Mississippi	Louisiana	
I'll spell it	Mom	pray	believe	black	white	1960	African American	
	Dad	walk	yell	different	same	school	home	
	family	read	go	protection	angry	church		
what	who	Mrs. Wilson	write					
where	when	people	ask					
which	how	judge	children			Frantz Elementary school		
which one	why	God	Federal Marshal					






Communication display based on Ruby Bridges. Created using Picture Communication Symbols. The Picture Communication Symbols © 1981-2011 by DynaVox Mayor-Jhonson LLC. All Rights Reserved Worldwide. Printed with Permission.

Typical: This communication system will include words, letters and numerals. The student will use the communication system to a) recount or describe key ideas or details from a text read aloud or information presented orally or through other media, b) ask and answer questions in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue, and c) use complete sentences when appropriate to task and situation in order to provide requested detail or clarification. Below is an example of a communication board created that would enable a student to participate in the lesson on Ruby Bridges and fulfill the above-mentioned communication demands (Figures 4a & b). Please note that the communication system includes letters, words and some pictures. The words on the letter page are from the list of the most frequently used words in the English language (Fry & Kress, 2006). The page on Ruby Bridges has vocabulary from the book. This page has words and some pictures. At the typical level a child is expected to be able to spell the words. The purpose of this page is to enable the student to communicate faster by pointing to the words rather than spelling each word. Also note that there are some blank squares on the communication board. This is to enable the teacher to write in the words that would allow the student to communicate more effectively.

Figure 4a.

the	of	and	a	in	is	you	that		
it	for	on	are	as	with	his	they		
I	at	be	this	have	from	or	one		
had	by	word	not	all	were	we	your		
1	2	3	4	5	6	7	8	9	0
q	w	e	r	t	y	u	i	o	p
a	s	d	f	g	h	j	k	l	
z	x	c	v	b	n	m	,	.	?
YES	Finish	I don't know	I know	Start Over					NO

Figure 4b

 Ruby Bridges	Ruby	born	think	poor	proud	in	Mississippi	Louisiana
I'll spell it 	Mom	pray	yell	black	white	on	1950	African American 
	Dad	walk		seperate	same	under	School	home
	Family	read		protection	angry		change	prayer
what? who?	Mrs. Henry	write		courage	equal		Church	
where? when?	Mob	ask	-ed				country	
which? how?	Judge	Children	-ing			but		Franz Bumental school 
which one? why?	God	Federal Marshal 	will			because		

Communication display based on Ruby Bridges. Created using Picture Communication Symbols. The Picture Communication Symbols © 1981-2011 by DynaVox Mayor-Jhonson LLC. All Rights Reserved Worldwide. Printed with Permission.

Middle School Example: Prince and the Pauper

Awareness: The communication system may include objects related to the text. (e.g., a crown), photographs of self, family members, or people in the immediate environment. Using the communication system the student will make connections to self and to environment. The student will point to objects and look at photographs with adults who will converse about the student, and things and people in the environment related to the school experience.

Pre-Symbolic: This communication system includes photographs related to the text (e.g., from Prince and the Pauper) (Figures 5a & 5b). The student will use the photographs to a) provide key ideas of the story (e.g., point to key characters, places, etc. related to the book, and b) answer questions and comment on the book. The student may access the materials through a teacher-made book with photographs from the story.

Figure 5a.



Figure 5b.

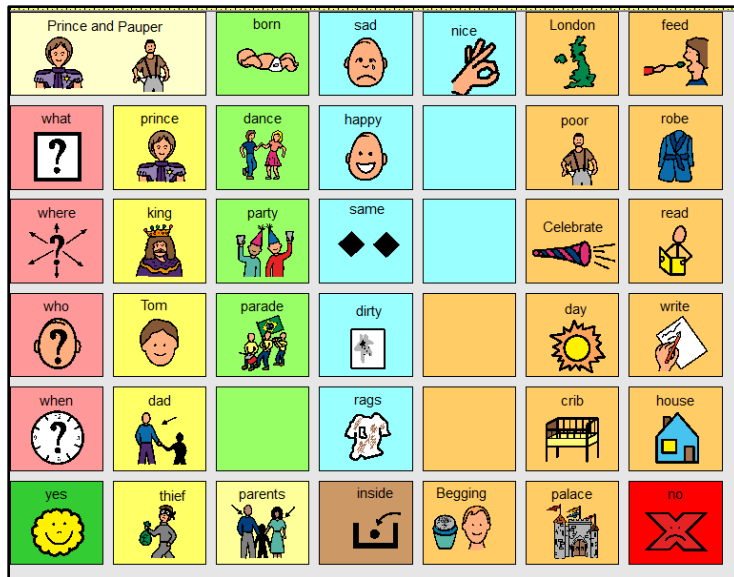


Communication display based on The Prince and the Pauper. Created using pictures from the book Ruby Bridges adapted by Corey Finkle, illustrated by Manisha Singh © 2010 Kalyani Navyoug Media Limited . Printed with permission

Concrete Symbol: The communication system may include symbols of characters, places, events, and actions related to the text. The student will use the communication system to a) describe key ideas and one or two supporting details, b) ask and answer questions, and c) provide additional information.

Below we have created a communication display with pictures that would enable a student to participate in the language arts activity. Please note that this communication display contains vocabulary related to Chapter 1 as the he book has many chapters and it is not possible to include all of the vocabulary in one display (Figure 6.). It should be noted that the vocabulary selected will enable the student to communicate the main idea and one or two supporting ideas. The vocabulary will also enable students to ask and answer questions as well as provide additional information. As the vocabulary in the communication displays is related only to the text, it is assumed that students who use AAC have several pages like the examples below as they need to communicate in a variety of situations.

Figure 6. Communication Display for Chapter 1
 (Click to view image in large size)



Communication display based on The Prince and the Pauper . Created using Picture Communication Symbols. The Picture Communication Symbols © 1981-2011 by DynaVox Mayor-Jhonson LLC. All Rights Reserved Worldwide. Printed with Permission.

Abstract Symbol: The communication system may include symbols and words related to the text. The student will use the communication system to a) describe key ideas or details, b) elaborate and ask questions to explain and clarify, and c) use multi word sentences.

Below is an example of a communication board that would enable a student to participate in the lesson on Chapter 1 to fulfill the above-mentioned communication demands (Figure 7a and b). Please note that the communication system includes letters and some words pictures. The words on the letter page are from the list of the most frequently used words in the English language (Fry & Kress, 2006). The page on the Prince and the Pauper has vocabulary from the book. The vocabulary for a student who is at this level will depend upon the student's abilities as this level includes students whose symbolic communication ranges from one word to multi-word utterances. We have left room for vocabulary items to be added so that the communication board can be individualized to the needs of the student. The example provided below is for a student who is beginning to communicate at a multi-word level. The student at this level has sight vocabulary and this is reflected in the words on the letter page.

Figure 7a. Communication Display for Chapter 1 Figure 7b.

Prince and Pauper	prince	born	parade	rich	inside	London	autumn
I'll spell it	King Edward	dance	celebrate	poor	up	Day	feast
	Tom	party	sing	happy	down	rags	food
	John Canty	love	feed	sad		robes	
what	who	not loved	opposite	different		crib	
where	when	people	desire	same		palace	
which	how	thief	not desired		alone	house	
which one	why	parents		many			

	the	of	to	and	a	is	you	that	
NO	it	he	was	for	on	are	as	with	
	his	they	I	at	be	this	have	from	
	or	one	had	by	word	but	not	what	
1	2	3	4	5	6	7	8	9	0
q	w	e	r	t	y	u	i	o	p
a	s	d	f	g	h	j	k	l	
z	x	c	v	b	n	m	,	.	?
									YES

Communication display based on The Prince and the Pauper . Created using Picture Communication Symbols. The Picture Communication Symbols © 1981-2011 by DynaVox Mayor-Jhanson LLC. All Rights Reserved Worldwide. Printed with Permission.

Typical: The communication system will include words, letters and numerals. The student will use the communication system to a) present main ideas and supporting details, b) provide reasoning to support the main idea, and c) use complex multi-word sentences to clarify, gather additional information, or deepen understanding, ask questions, argue and make a point. Below are examples of communication systems that a student might use to fulfill the above-mentioned goals (Figure 8a & b). At this stage the student will use the letter page to communicate during the class. A supplemental word page can also be used as this will enable the student to respond more effectively and efficiently. It is important to remember that the examples below are just to respond in the language arts class. A student will have multiple 'pages' like the one below. These may also be programmed into high tech devices such as the iPad or Dynavox.

Figure 8a.

Prince and the Pauper	abusive	castle	different	frustrated	palace	respect	unaware
I will spell	admitation	celebration	drunk	happy	pauper	royalty	understand
I don't know	advice	change	education	hereditary	personality	servants	wander
I need more time	alike	character	escape	imagination	play	slum	wealthy
I know	attitude	compare	excited	imposter	poor	stones	wise
	beggar	confusion	fairy tales	influence	problems	teasing	wish
	behavior	court	family	motivated	punishment	thief	writing
	believe	desire	father	mud	reading	truth	

Figure 8b.

a	b	c	d	e	f	g	h
i	j	k	l	m	n	o	p
q	r	s	t	u	v	w	x
y	z	.	,	?	!		
the	of	to	and	a	is	you	that
it	he	was	for	on	are	as	with
his	they	I	at	be	this	have	from

High School - Tom Sawyer

Awareness: The communication system may include objects related to the text (e.g., paint brush,), photographs of self, family members, and people in the immediate environment. Using the communication system the student will make connections to self and to environment. The student will point to objects and look at photographs with adults who will converse about the student and things and people in the environment related to the school experience.

Pre-Symbolic: The communication system includes photographs related to the text (e.g., Tom Sawyer) (Figure 9a, b & c). The student will use the photographs to a) provide key ideas of the story (e.g., point to key characters, places, etc. related to the book, and b) answer questions and comment on the book. The student may access the materials through a teacher-made book with photographs from the story.

Figure 9a.

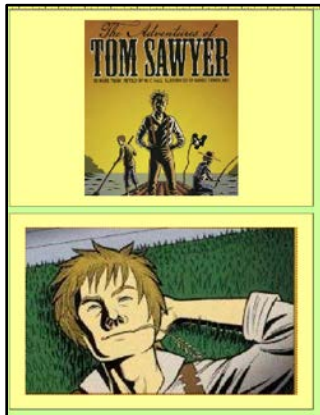


Figure 9b.



Figure 9c.



Communication display based on Tom Sawyer. Created using pictures from the book Tom Sawyer adapted by M. C. Hall, illustrated by Daniel Strickland © 2007 Capstone Publications . Printed with permission

Concrete Symbol: The communication system may include symbols and of characters, places, events, and actions related to the text. Student will use the communication system to a) identify the main characters of the story, b) describe key ideas and one or two supporting details, c) ask and answer questions, and d) provide additional information. Below we have created a communication display with pictures that would enable a student to participate in the language arts activity. Please note that this communication display contains vocabulary related to Chapter 1 (Figure 10). A different communication display with the relevant vocabulary will have to be created as the book has many chapters and it is not possible to include all of the vocabulary in one display. It should be noted that the vocabulary selected will enable the student to communicate the main idea and one or two supporting ideas. The vocabulary will also enable students to ask and answer questions as well as provide additional information. As the vocabulary in the communication displays is related only to the text, it is assumed that students who use AAC have several pages like the examples below as they need to communicate in a variety of situations.

Figure 10. Communication Display for Chapters 1

([Click](#) to view image in large size)



Communication display based on The Adventures of Tom Sawyer. Created using Picture Communication Symbols. The Picture Communication Symbols © 1981-2011 by DynaVox Mayor-Jhonson LLC. All Rights Reserved Worldwide. Printed with Permission.

Abstract Symbol: The communication system may include symbols and words related to the text. The student will use the communication system to a) reason or emphasize a point of view, b) link ideas, and c) use multi-word sentences.

Below is an example of a communication board that would enable a student to participate in the lesson on Chapter 1 to enable a student to fulfill the above-mentioned communication demands (Figure 11a & b). Please note that the communication system includes letters, some words, and pictures. The words on the letter page are from the list of the most frequently used words in the English language (Fry & Kress, 2006). This page has pictures and a few words. The vocabulary for a student who is at this level will depend upon the student's abilities as this level includes students whose symbolic communication ranges from one word to multi-word utterances. We have left room for vocabulary items to be added so that the communication board can be individualized to the needs of the student. The example provided below is for a student who is beginning to communicate at a multi-word level. The student at this level has sight vocabulary and this is reflected in the words on the letter page.

Figure 11a.

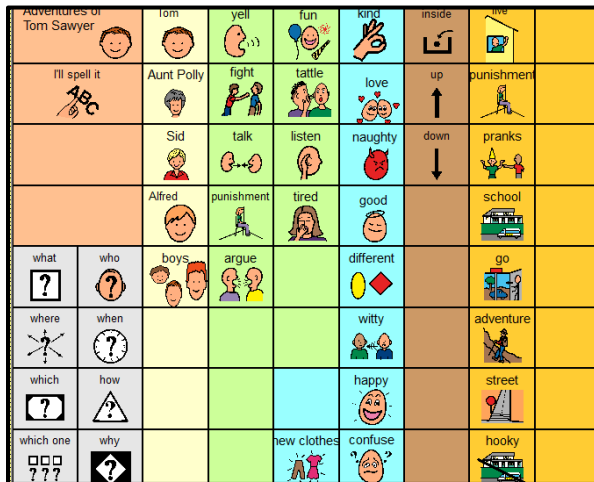
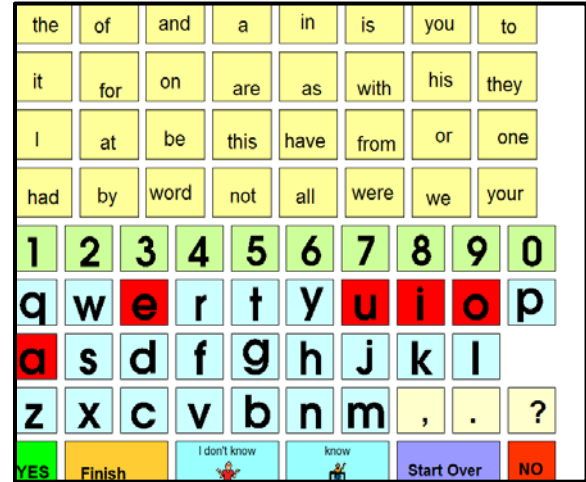


Figure 11b.



Communication display based on The Adventures of Tom Sawyer. Created using Picture Communication Symbols. The Picture Communication Symbols © 1981-2011 by DynaVox Mayor-Jhonson LLC. All Rights Reserved Worldwide. Printed with Permission.

Typical: The communication system will include words, letters and numerals. The student will use the communication system to a) to make informed decisions and solve problems, b) evaluate the credibility and accuracy of each source, c) evaluate a speaker’s point of view and reasoning using evidence and rhetoric, d) assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used, and d) adapting responses to a variety of contexts and tasks and demonstrating a command of formal English when indicated or appropriate. Below are examples of communication systems that a student might use to fulfill the above-mentioned goals (Figures 12a & b). At this stage the student will use the letter page to communicate during the class. We have added a communication display with the 100 most commonly used words in the English language (Fry & Kress, 2006). A supplemental page with core vocabulary words can also be used as this will enable the student to respond faster. It is important to remember that the examples below are just to respond in the language arts class. A student will have multiple ‘pages’ like the one below. These may also be programmed into high tech devices such as the iPad or Dynavox.

Figure 12a.

a	b	c	d	e	f	g	h
i	j	k	l	m	n	o	p
q	r	s	t	u	v	w	x
y	z	.	,	?	!		
1	2	3	4	5	6	7	8
9	0	+	-	%	x		
Capital	Start over	I am thinking	I need more time	I am done	Please wait	Please repeat	Thank you

Figure 12b.

the	of	and	a	in	is	you	that	it	he	was	
for	on	are	as	with	his	they	I	at	be	this	
have	from	or	one	had	by	word	but	not	what	all	
were	we	when	your	can	said	there	use	an	each	which	
she	do	how	their	if	will	up	other	about	out	many	
then	them	these	so	some	her	would	make	like	him	into	
time	has	look	two	more	write	go	number	way	could	people	
see	no	my	than	first	water	been	call	who	oil	its	
now	find	long	down	day	did	get	come	made	man	part	
because	why	when				-s	-ing	-ed	er	-ly	est

The purpose of this document was to highlight the significance of communication in the language arts curriculum. We also wanted to demonstrate with examples that students with CCN can access and participate in language arts activities when provided with supports in the form of assistive technology. For more information please contact Smita Worah at worah@ctserc.org or Janet Zarchen at zarchen@ctserc.org.

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Magnified Images:

Figure 2

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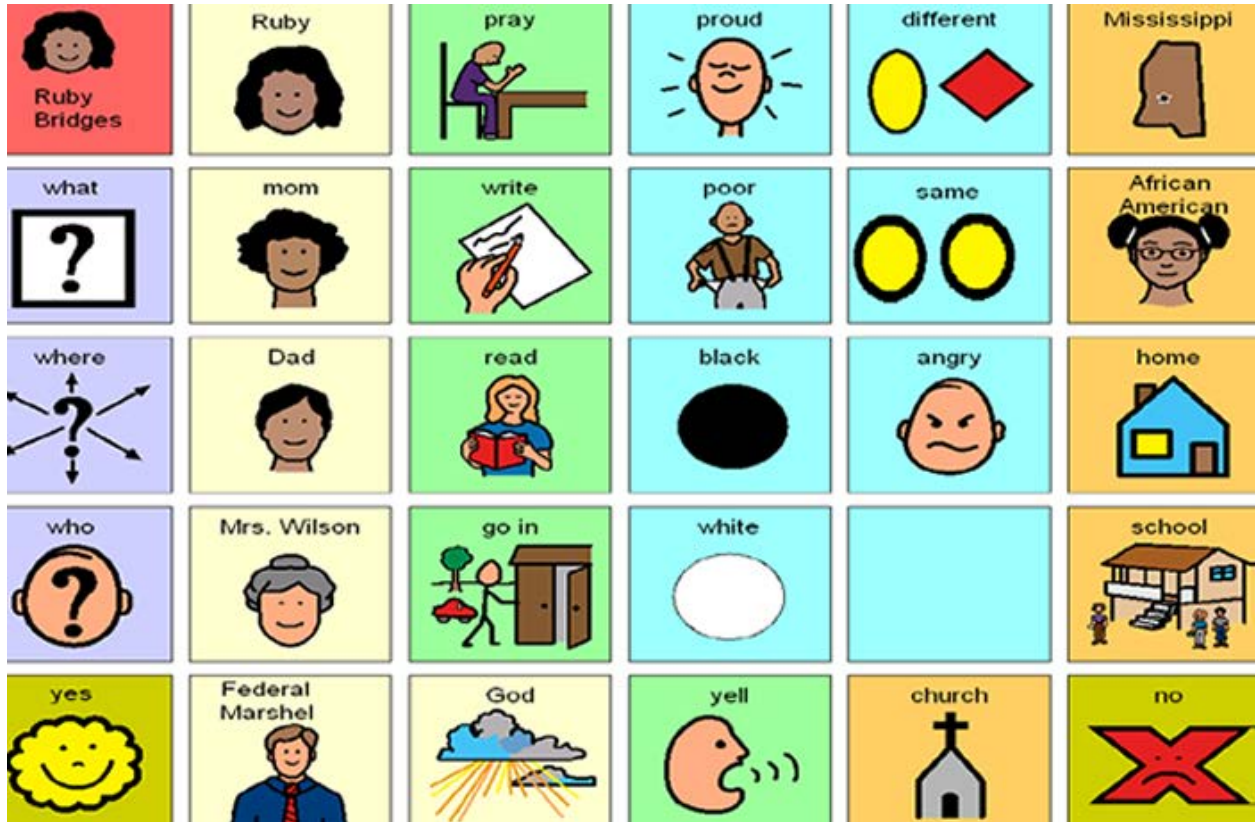


Figure 3a

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Figure3b

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

 Ruby Bridges	Ruby	born	think	poor	proud	Mississippi	Louisiana	
I'll spell it 	Mom	pray	believe	black	white	1960	African American	
	Dad	walk	yell	different	same	school	home	
	family	read	go	protection	angry	church		
what 	who 	Mrs. Wilson	write					
where 	when 	people	ask					
which 	how 	judge	children			Frantz Elementary school		
which one 	why 	God	Federal Marshal					

Figure 4a

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the	of	and	a	in	is	you	that		
it	for	on	are	as	with	his	they		
I	at	be	this	have	from	or	one		
had	by	word	not	all	were	we	your		
1	2	3	4	5	6	7	8	9	0
q	w	e	r	t	y	u	i	o	p
a	s	d	f	g	h	j	k	l	
z	x	c	v	b	n	m	,	.	?
YES	Finish	I don't know	I know	Start Over	NO				

Figure 4b

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 Ruby Bridges		Ruby	born	think	poor	proud	in	Mississippi	Louisiana
I'll spell it 		Mom	pray	yell	black	white	on	1960	African American 
		Dad	walk		seperate	same	under	School	home
		Family	read		protection	angry		change	prayer
what?	who?	Mrs. Henry	write		courage	equal		Church	
where?	when?	Mob	ask	-ed				country	
which?	how?	Judge	Children	-ing			but		Frantz Elementary school
which one?	why?	God	Federal Marshal 	will			because		

Figure 6

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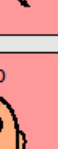



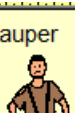

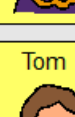



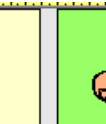





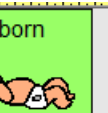
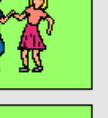




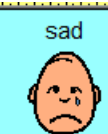




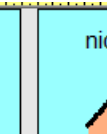






Prince and Pauper 	born 	sad 	nice 	London 	feed 	
what 	prince 	dance 	happy 		poor 	robe 
where 	king 	party 	same 		Celebrate 	read 
who 	Tom 	parade 	dirty 		day 	write 
when 	dad 		rags 		crib 	house 
yes 	thief 	parents 	inside 	Begging 	palace 	no 

Figure 7a

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


















Prince and Pauper 		prince 	born 	parade 	rich 	inside 	London 	autumn 
I'll spell it 		King Edward 	dance 	celebrate 	poor 	up 	Day 	feast 
		Tom 	party 	sing 	happy 	down 	rags 	food 
		John Canty 	love 	feed 	sad 		robes 	
what 	who 		not loved 	opposite 	different 		crib 	
where 	when 	people 	desire 		same 		palace 	
which 	how 	thief 	not desired 		alone 		house 	
which one 	why 	parents 			many 			

Figure 7b

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	the	of	to	and	a	is	you	that	
N	it	he	was	for	on	are	as	with	
O	his	they	I	at	be	this	have	from	
	or	one	had	by	word	but	not	what	

1	2	3	4	5	6	7	8	9	0	Y E S
q	w	e	r	t	y	u	i	o	p	
a	s	d	f	g	h	j	k	l		
z	x	c	v	b	n	m	,	.	?	

Figure 8a

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Prince and the Pauper	abusive	castle	different	frustrated	palace	respect	unaware
I will spell	admitation	celebration	drunk	happy	pauper	royalty	understand
I don't know	advice	change	education	hereditary	personality	servants	wander
I need more time	alike	character	escape	imagination	play	slum	wealthy
I know	attitude	compare	excited	imposter	poor	stories	wise
	beggar	confusion	fairy tales	influence	problems	teasing	wish
	behavior	court	family	motivated	punishment	thief	writing
	believe	desire	father	mud	reading	truth	

Figure 8b

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a	b	c	d	e	f	g	h
i	j	k	l	m	n	o	p
q	r	s	t	u	v	w	x
y	z	.	,	?	!		
the	of	to	and	a	is	you	that
it	he	was	for	on	are	as	with
his	they	I	at	be	this	have	from

Figure 10

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Figure 11a

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




























Adventures of Tom Sawyer 		Tom 	yell 	fun 	kind 	inside 	live 	
I'll spell it 		Aunt Polly 	fight 	tattle 	love 	up 	punishment 	
		Sid 	talk 	listen 	naughty 	down 	pranks 	
		Alfred 	punishment 	tired 	good 		school 	
what 	who 	boys 	argue 		different 		go 	
where 	when 				witty 		adventure 	
which 	how 				happy 		street 	
which one 	why 			new clothes 	confuse 		hooky 	

Figure 11b
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the	of	and	a	in	is	you	to		
it	for	on	are	as	with	his	they		
I	at	be	this	have	from	or	one		
had	by	word	not	all	were	we	your		
1	2	3	4	5	6	7	8	9	0
q	w	e	r	t	y	u	i	o	p
a	s	d	f	g	h	j	k	l	
z	x	c	v	b	n	m	,	.	?
YES	Finish	I don't know 	know 	Start Over	NO				

Figure 12a
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a	b	c	d	e	f	g	h
i	j	k	l	m	n	o	p
q	r	s	t	u	v	w	x
y	z	.	,	?	!		
1	2	3	4	5	6	7	8
9	0	+	-	%	X		
Capital	Start over	I am thinking	I need more time	I am done	Please wait	Please repeat	Thank you

Figure 12b
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the	of	and	a	in	is	you	that	it	he	was
for	on	are	as	with	his	they	I	at	be	this
have	from	or	one	had	by	word	but	not	what	all
were	we	when	your	can	said	there	use	an	each	which
she	do	how	their	if	will	up	other	about	out	many
then	them	these	so	some	her	would	make	like	him	into
time	has	look	two	more	write	go	number	way	could	people
see	no	my	than	first	water	been	call	who	oil	its
now	find	long	down	day	did	get	come	made	many	part
because	why	when		-s	-ing	-ed	er	-ly	est	