

A Core Issue: A Core Vocabulary for the Common Core

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DYNAMIC
LEARNING MAPS

<http://dynamiclearningmaps.org>

A Challenge and an Opportunity for Students with Complex Communication Needs (CCN)

- The Common Core State Standards
 - US national standards for English Language Arts and Mathematics
 - Finland, Singapore, and South Korea have employed similar systematic core curriculum standards with good outcomes
 - Focus is on college and career readiness for *all* students
 - Standards require critical thinking, building a foundation of information, and use of known information to develop new knowledge



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The Common Core emphasizes:

- Learning that builds over time.
- Application of knowledge and skills.
- Active participation and interaction in learning activities.
- Collaboration and communication.
- Ongoing comprehensive instruction in reading, writing, speaking, listening, and language.



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Challenges for students with CCN

- Access to adequate vocabulary to express new knowledge and increasingly complex ideas.
- The ability to express a variety of communicative functions.
- Adjusting to the communication demands of different contexts.
- Use of the alphabet for reading and spelling.
- Vocabulary that allows expansion of the semantic and syntactic complexity of expressive language.



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Core Vocabulary: A Familiar Solution



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Characteristics of a Core Vocabulary

- Limited set of highly useful words
- Words apply across settings
- Vocabulary is made up primarily of pronouns, verbs, descriptors, and prepositions
- Very few nouns are included in a core vocabulary
- Consistent location of vocabulary



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Communication Benefits of a Core Vocabulary

- Variety of word classes included
- Vocabulary to express a variety of communicative functions



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Core Vocabulary Research Studies

Adults:

- Stuart, Beukelman & King, 1997
- Balandin & Iacono, 1999
- Hill, 2001

Preschoolers:

- Beukelman, Jones, & Rowan, 1989
- Banajee, DiCarlo & Stricklin, 2003
- Trembath, Balandin, & Togher, 2007
- Marvin, Beukelman, & Bilyeu, 1994

None of these studies have examined the language of students in academic settings.



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Oakland Schools (Michigan)

- Observations Before Implementing Core:
 - Inconsistent use of AAC systems
 - Limited use of all communicative functions
 - Heavy focus on fringe or expanded vocabulary rather than core
 - Minimal turn takes during communicative exchanges
 - Reduced communicative opportunities because current vocabulary did not occur frequently enough in classroom activities



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Oakland Schools

- **GOAL:** Expansion of AAC service delivery model to include:
 - Universal and systematic use of “core vocabulary”
 - On manual display, low tech, or high tech devices
- Chose initial core by reviewing research & current solutions
- Included core for emergent language learners and when updating devices for current users











































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Oakland's 32 Location Core Vocabulary

I 	want 	go 	make 	no 	more 	that 	hey 	People 	Places 
mine 	get 	look 	turn 	help 	all gone 	here 	what 	Actions 	Delete 
you 	like 	open 	do 	stop 	finished 	in 	where 	Describe 	Clear 
it 	yucky 	play 	put 	again 	uh oh 	out 	who 	Things 	Quick talk 

Observations

- Increased investment by staff (SLPs embraced “core vocabulary”)
- Increased use of AAC systems
 - Multiple word phrases even without expanded vocabulary available
 - Use of words not easily represented and not taught specifically but rather embedded in daily communicative exchanges
- Increased expectations for students to use language in flexible ways
- Focus shifted from the device and programming to the language needed for communication



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One Classroom Example

Specifically, ASD classrooms with many students using AAC systems saw change in 3-4 months:

- Increased use of a variety of communicative functions
- Increased use of target vocabulary
- Modeling of language use increased because vocabulary became familiar more quickly to staff



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Learning from Oakland Schools



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A Survey of Core Vocabulary Use in Oakland Schools (n=20)

What words does your student use?

help	10
all gone	9
I	9
no/not	9
open	9
stop	9
want	9
finished	8
more	8
turn	8
go	7
look	7
like	6

What communicative functions does your student exhibit when using the core system?

Making choices	92%
Requesting	92%
Rejecting	75%
Responding	75%
Commenting	50%
Gaining attention	42%
Greetings/Farewells	42%
Expressing feelings	33%
Initiating conversation	25%
Providing information	25%



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Applying What We've Learned



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Identifying the AAC Core

- Review of extant core vocabulary research
- Review of several existing core vocabulary sets
- Identify the u-score
 - (u = frequency + dispersion)



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AAC Core Comparison

	A	B	C	D	E	F	G
1	Vocabulary	U-Score	Sum	PRESCHOOL B	PRESCHOOL T	PRESCHOOL B	ADULT Stuart
2	you	7600	24	1	1	1	1
3	i	4443	23	1	1	1	1
4	more	2160	23	1	1	1	1
5	go	927	22	1	1	1	1
6	help	659	20	1	1	1	
7	want	586	21	1	1	1	1
8	it	9386	17	1	1	1	1
9	in	19004	16	1	1	1	1
10	like	1810	16	1	1		1
11	make	1264	16	1	1		1
12	that	10184	15	1	1	1	1
13	do	2102	15	1	1		1
14	don't	601	16		1		1



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Our process

- Review of extant core vocabulary research
- Review of several existing core vocabulary sets
- U scores
- Review of Clendon's list of 150 most frequently used written words by K-4th graders
- Review of vocabulary used in Common Core
- Provide an alphabet and access to numbers



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AAC Core and Academic Core

- AAC core word list
- Academic core word list
- Overlap



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3 Vocabulary Tiers

(Beck & McKeown, 1985)

- Tier 1 – The most basic words (e.g., baby, clock, happy, walk).
- Tier 2 – High frequency words for mature language use. These words are found across a variety of domains (e.g., absurd, steep, disaster)
- Tier 3 – Low frequency words used in specific domains (e.g., hemoglobin, lathe, escarpment)



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How much instructional language do students need?

- Character
e.g., man in book; big, mad woman; sick animal
- Setting
e.g., hot dry there ; down by water; at home
- Subtraction
e.g., take from
- Addition
e.g., put together



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However: Equal and same are not equivalent concepts

- We will need to add some specific instructional vocabulary.
- Since this is a core vocabulary, these words need to apply across multiple settings (e.g., equal as a math concept, equal as it applies to measurement, equal as applied to fairness, equal as applied to the equal rights for all citizens)



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Identifying Vocabulary Demands of the Common Core State Standards

- Search grade by grade to determine:
 - What specific vocabulary is clearly called out?
 - Question Words (*what, who, when, where, why, how*)
 - Shapes (plus words like *flat, solid*)
 - Personal and Possessive Pronoun (*me, my, mine*)
 - What word classes are clearly called out?
 - Pronouns, Nouns (singular, plural, irregular plural)
 - Verbs (with tense markers – irregular past tense)
 - Adjectives and adverbs



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Prioritizing Words for the Academic Core

- Priority 1: Words that are specifically called out in the Common Core and appear in the AAC Core
- Priority 2: Words that are specifically called out in the Common Core but NOT in the AAC Core
- Priority 3: Additional words we select based on U-scores in written language, research from Sally Clendon and others, and other sources to make sure all word classes are represented in the final systems.



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AAC systems designed to meet the needs of a variety of students

- Core – 32, 24, 20, 12, 9, & 4 locations per page versions
- No matter how many symbols the student has per page, there will be 10 or 11 additional pages with an equal number of locations that include core words.
- Systems grow within and across grades.
- As locations are added to the static core, the relative location of previous icons/messages stays the same.

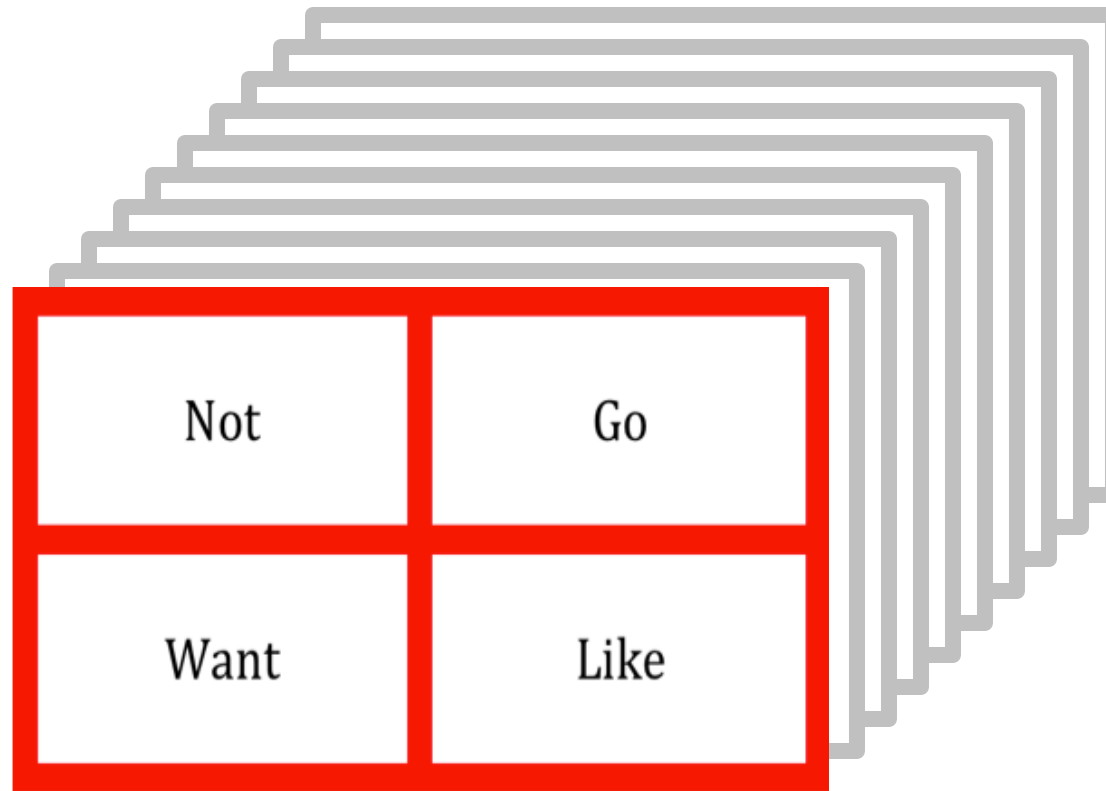


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4 x10 Location Core



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9 x 10 Location Core

I	Not	Go
You	Want	Like
It	More	Stop

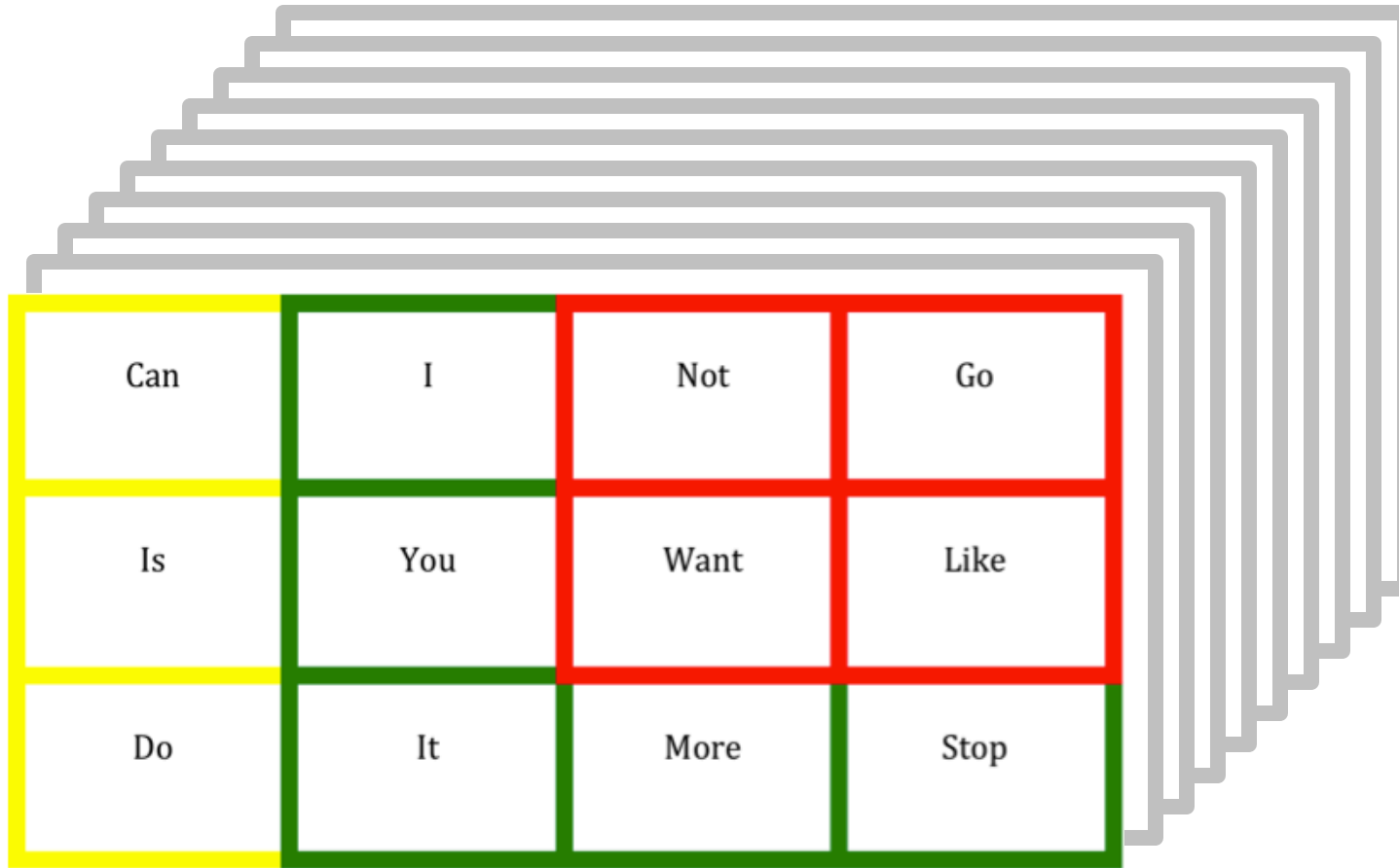


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12 x 10 Location Core



Can	I	Not	Go
Is	You	Want	Like
Do	It	More	Stop

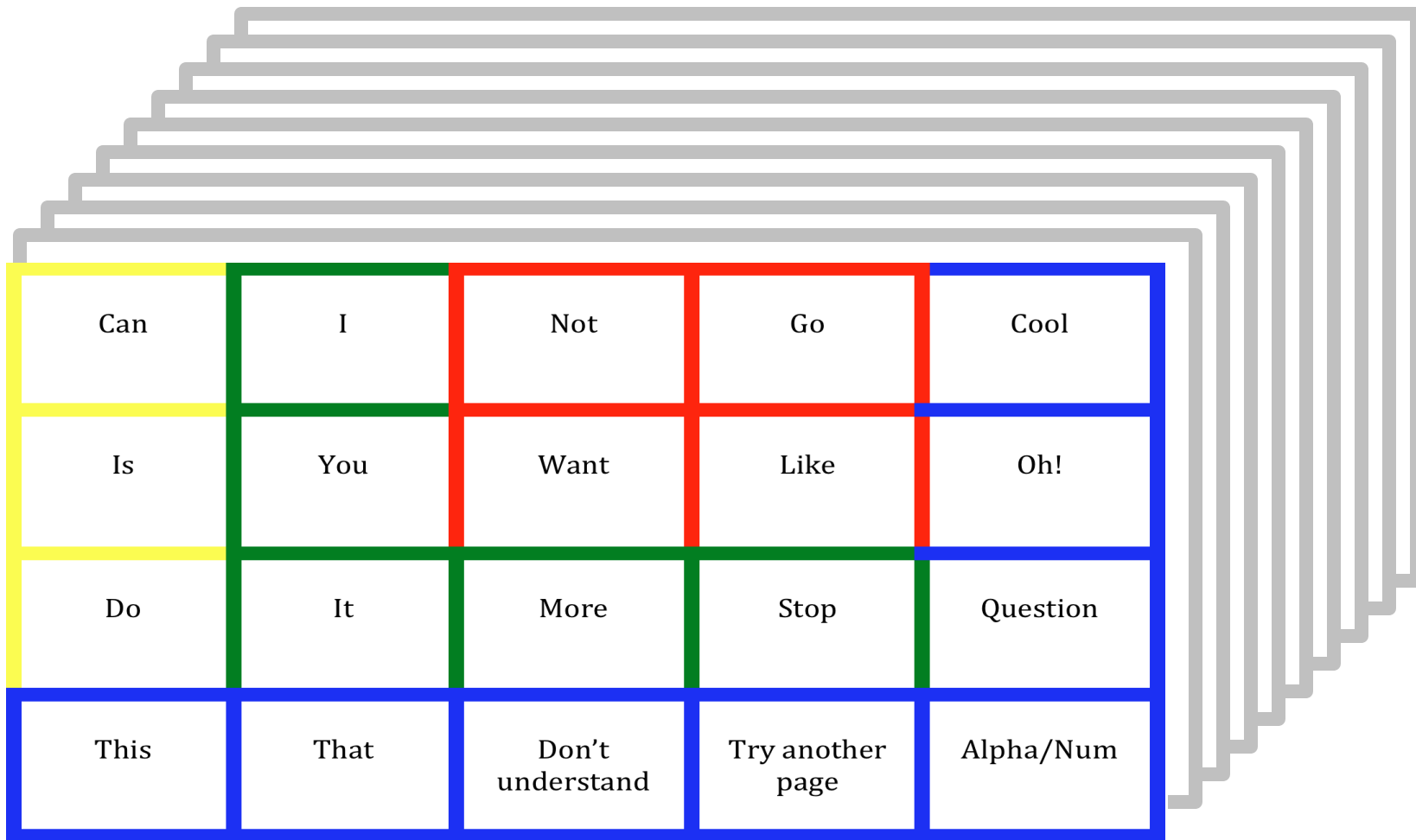


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20 x 10 Location Core



Can	I	Not	Go	Cool
Is	You	Want	Like	Oh!
Do	It	More	Stop	Question
This	That	Don't understand	Try another page	Alpha/Num



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24 x 10 Location Core

	Can	I	Not	Go	Cool
	Is	You	Want	Like	Oh!
	Do	It	More	Stop	Question
	This	That	Don't understand	Try another page	Alpha/Num



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32 x 10 Location Core

			Can	I	Not	Go	Cool
			Is	You	Want	Like	Oh!
			Do	It	More	Stop	Question
			This	That	Don't understand	Try another page	Alpha/Num



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Things to Remember

- Our goal is not to replace existing systems – We are trying to fill a void.
- Use this information to inform current vocabulary selection to insure it meets the demands of the Common Core.
- You are going to have to add vocabulary for the system to work across all environments (e.g., people, foods, what hurts?)



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In the works

- We are still in the process of refining the vocabulary.
- Determining what if any vocabulary gets added at each new grade level
- Adding morphological markers
- Determining how to best provide access to large numbers
- Adding necessary symbols for punctuation and mathematics



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Teaching and Modeling Vocabulary

- No student will be able to use this approach without teaching and modeling.
- Teaching:
 - Teach the **words** in the set you select.
 - Teach the **symbols** in the set you select.
- Modeling
 - Model the use of the vocabulary during instructional activities and all other communication activities.
 - Receptive input using the system is critical.
 - Create multiple systems and take advantage of peers.



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