Gateway
TO LANGUAGE & LEARNING

A Tool for Achieving Communicative Competence Across the Lifespan

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Communication Technology Resources

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What is Gateway©?

- An AAC App that supports the communication needs of children, teens and adults with a range of user abilities

- A series of high-frequency *Core Word* page sets, each with focused fringe vocabulary, enabling novel message generation and effective communication at home, school and in the community.

- Efficiently organized page sets with an average # of keystrokes ≤1.5 per word

- A tool that supports language development and language use within functional contexts by use of *focused fringe vocabulary* and *Theme pages*.

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GATEWAY PLATFORMS

Tobii DynaVox
In-App Purchase for Snap+
- 7 Vocabulary Levels – Child Functional, Teen/Adult Functional, Developing Language, Advanced Communicator, Text, Pro, Scan Pro
- Grid sizes – 3*4, 4*6, 5*7, 5*9, 6*11, 8*11, 9*12. 10*14
- Available for Windows and IOS Devices

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TouchChat
In-App Purchase for the TouchChat
- Child, Teen and Adult Pages
- 12, 20,30, 40, 66, Pro,
- Integrated word prediction

Assistiveware
In-App Purchase for Proloquo2Go
5 Vocabulary Levels – Child Functional, Teen/Adult Functional, Developing Language, Advanced Communicator, and Text
Grid sizes – 3*4, 4*6, 5*7, 5*9, 6*11, 8*11, 9*12. 10*14

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Page Set Paradigm

TouchChat

Learning Language	Language Impaired	Linguistically Competent
Child 12	Teen 20	Child 66
Child 20	Teen 30	Teen 40
Child 40		Teen/Adult 66
Child 66		Text 40
		Text 66
		Gateway Pro

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**Page Set Paradigm
for
Proloquo2Go and Snap**

Gateway

Child Functional	Teen/Adult Functional	Developing Language	Advanced Communicator	Text
3*4	3*4	3*4		
5*6	5*6	4*6		
5*7	5*7	5*7		
5*9	5*9	5*9	5*9	5*9
6*11	6*11	6*11	6*11	6*11
8*11	8*11	8*11	8*11	8*11
9*12	9*12	9*12	9*12	9*12
10*14	10*14	10*14	10*14	10*14

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Who Can Use Gateway©?

Gateway

▪ A person who …
  ▪ can categorize words according to people, actions, places, objects,
  ▪ is beginning to create single word messages,
  ▪ has the potential to develop age appropriate syntactical performance,
  ▪ uses complex sentence structure,
  ▪ has a need to express novel thoughts and ideas
  ▪ has the potential to develop functional literacy skills

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How is Gateway© Organized?

- High frequency **Core Word** MAIN page organized in a Fitzgerald Key format with Category folders branching to **focused fringe vocabulary**.

- **SCHOOL or COMMUNITY** folder helps focus "fringe" vocabulary folders for the communicative context

- "**My Themes**" folder that links to predictable and activity-based vocabulary

- **DICTIONARY** folder for quick access to fringe vocabulary

- **Symbol page** sets for young users or those who need or prefer symbols and **Text page** sets for literate users who prefer a text-based approach.

- Option to select a **Developmental Progression** model or **Advanced** grid size – hide buttons to simplify

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What is the Fitzgerald Key?

- Fitzgerald Key
  - Language learning approach initially designed to teach language *structure* to deaf individuals
  - Format mirrors simple declarative sentence
  - Similar to the approach young children intuitively use to categorize their world
  - Color-coding utilized

Who-**Verb**-**Little words**-**Words that tell**-**What**-**Where**-**When**

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Fitzgerald Key

- **Who - (possessive, plural)**
  - People
  - Family
  - Community Helpers
  - Pronouns

- **Verbs - (-s, -ing, -ed)**
  - Auxiliaries, models, actions

- **Little words**
  - Articles,
  - Prepositions
  - Conjunctions

- **Words that tell (-er, est)**
  - Adjectives
  - Adverbs

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Fitzgerald Key (con't)

Gateway

- **What - (-s)**
  - Things
  - Foods
  - Household
  - Animals
  - Body Parts
- **Where (-s)**
  - Places
  - Inside
  - Outside

- **When - Time Words**
  - Months, Days, Holidays,
  - Other Time related Words

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Effective Communication

Gateway

- Part #1 – Ability to say what you want to say, when you want to say it.
- Appropriate Vocabulary Selection
  - Large and diverse core vocabulary
  - Academic vocabulary
- Enable "Real Time" spontaneous conversation across environments – home – school - community

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What is Core Vocabulary

Gateway

- **Core vocabulary** is a small set of simple words, in any language, that are used frequently and across contexts (Cross, Baker, Klotz & Badman, 1997).
- **Core**: the choicest or most essential or most vital part of some idea or experience
- **Shared** "Core"
  - have, want, go, I,
  - Is "eat or drink really core"
- **Individual** "Core"
  - Chips, pretzel, noisy

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Effective Communication   Gateway

- Part #2 – Create Messages With a Minimum Amount of Effort
- Minimize Cognitive demands of symbol identification/recognition
- Improved access
- Access each word with an average of < 2 key selections per word

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TouchChat
Keystroke Comparison   Gateway

Sentence	# of Wds	# of Key Selections	
		Gateway 40-Child	Gateway 66-Teen/Adult
I want to go outside.	5	5	5
I don't want to go to school.	7	9	8
Can you help me?	4	7	6
Will you read to me?	5	8	6
I am going to play baseball.	6	6	8
I forgot to do my homework.	6	13	11
I love to eat ice cream.	6	7	6
What are you going to eat?	6	8	7
Do you have it when you go to school?	9	13	12
Yesterday I went swimming.	4	8	8
Total Number of Words	**58**	**84**	**77**
Avg. Number of Keystrokes		**1.44**	**1.32**

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Proloquo2Go and Snap
Gateway Keystroke Comparison

Developing Language   Advanced Communicator

Developing Language Comparison	# Words	Key Selections			
Message		5*9 40	6*10 60	8*11 80	10*14 130
We are going to eat chicken.	6	10	9	8	8
Can you help me?	4	7	5	5	5
I want to go to the mail.	7	7	7	5	5
Yesterday they helped me with my computer.	7	12	11	11	10
I want to get my sister a present.	8	10	10	10	8
Will you give it to me?	6	11	7	7	7
What do you want me to do?	7	9	9	9	9
She has to work tomorrow.	5	8	8	7	6
Total Spoken Words - Hits	**50**	**74**	**66**	**62**	**58**
Avg. # Keystrokes Per Word		**1.48**	**1.32**	**1.24**	**1.16**

Advanced Communicator Comparison	# Words	Key Selections			
Message		5*9 40	6*10 60	8*11 80	10*14 130
We are going to eat chicken.	6	8	8	8	6
Can you help me?	4	6	5	5	4
I want to go to the mail.	7	6	7	6	6
Yesterday they helped me with my computer.	7	12	11	11	10
I want to get my sister a present.	8	10	10	10	9
Will you give it to me?	6	9	6	6	6
What do you want me to do?	7	9	8	9	8
She has to work tomorrow.	5	7	6	4	4
Total Spoken Words – Hits	**50**	**67**	**61**	**59**	**53**
Avg. # Keystrokes Per Word		**1.34**	**1.22**	**1.18**	**1.06**

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The Gateway Vocabularies
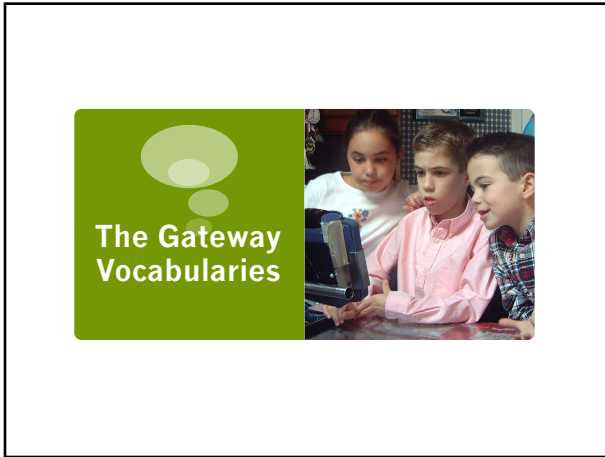
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Gateway: A Tool to Support Language Development

Gateway

Normal Language Development	Gateway Vocabulary
▪ Speak single words	● Core word vocabulary enables a child to develop language according to normal sequence
▪ Combine words to form 2-word utterances	
▪ Begin to add word endings	● Vocabulary and morphology features account for developmental needs and abilities
▪ Novel telegraphic sentences	
▪ Complex novel sentences	
▪ Develop functional conversational skills	● User able to create simple to complex novel sentences

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Not All Children Require a Developmental Model

Gateway

▪ Approaches
  ▪ Picture Exchange Communication System (PEC)
  ▪ Applied Behavioral Analysis (ABA)
  ▪ Language Acquisition through Motor Planning (LAMP)

▪ Limited Needs, Wants Interests

▪ Limited Social Interaction

▪ Functional

▪ Core and Fringe

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**Gateway
Developing
Language
Page Sets**
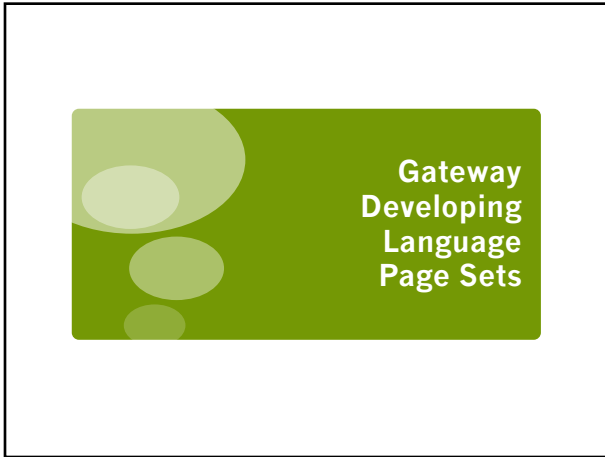
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Targeted Users

- Children developing language following a "typical course"
- Communicate using a range of 1-3 word telegraphic sentence to syntactically correct sentences
- Benefit from efficient (1.5 hits per word) and rich core-word page set
- Benefit from word endings, articles and prepositions
- May have spelling and reading among goals and/or abilities
- Benefit from pages promoting use in school, leisure and w/in the community.

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Learning Language Page Sets

- These page sets provide a powerful *solution for children* learning to:
  - Create simple to complex sentences
  - Improve pragmatic language performance
  - Demonstrate mastery of core curriculum competencies
  - Communicate in a range of communicative contexts

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Features of Language Learning Page Sets?

Gateway

- Core Single Word Vocabulary and Theme Pages
- Sentence Development Links
- "Semantic Power Strips"
- Opposite Strategy for "Descriptive Words"(Compass & TouchChat)
- Incremental Use of Word Morphology Features (e.g., -ing, -ed,)
- Features Complement Language Arts Goals and Competencies
- Organization Enables Classroom Participation
- Expressive Language Testing
  - Performance can be measured using the Preschool Language Scale
    - Can score up to 35 months w/ Gateway 20
    - Can score up to 72 months on PLS-4 w/ Gateway 40

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Theme Pages – Support Pragmatic Language Development

Gateway

- About Me
  - Basic Information about the user
- Time to Chat
  - Range of Pragmatic Functions
- Time to Learn
  - Circle, Community Helpers, Meal Chat and Months
- Time to Play
  - Variety of leisure activities to support language and literacy development
- Time in Town
  - Activity page sets for community instruction and integration

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Gateway Advanced Communicator Page Sets

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Advanced Communicator

Gateway

- Individuals with good linguistic skills and advanced expressive language abilities.
- Communicates using a range of 5-6 word sentences to syntactically correct sentences
- Use or have the potential to use word endings, articles and prepositions, etc.
- Spelling and reading are among goals and/or abilities
- Benefits from Tabs with topical vocabulary to enhance participation in focused environments.

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AAC Needs for Linguistically Competent Communicator

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- Effective Communication
  - To be able to say what you want to say when you want to say it
- Efficient Communication
  - To be able to say what you want to say with a minimum amount of effort

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How Does Gateway Support Efficient and Effective Communication?

Gateway

- High frequently vocabulary is included in the "Core Vocabulary"
- Utilization of Features to Reduce Keystrokes
  - Efficient access to Core vocabulary
  - "Dynamic Morphology"-
  - Semantic Power Strips
  - Spelling w/ Word Prediction + Category Folders
- Minimize Cognitive Demands
  - Single meaning symbols
  - Tabs for contextual communication
- Access to the spelling and word prediction

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What is Dynamic Morphology ? Gateway

- Present Progressive
  - Auxiliary (am, is, are, was, were) => verb + ing

- 3rd Person Singular
  - He, she, it, etc. = > third person singular (e.g, he goes)

- Infinitive Form
  - For the verbs - need, want, try, have, got etc., the verb label changes to the infinitive verb form. Want => to see, to be, etc.

- Object Pronouns
  - For prepositions to, with, by, etc., subject pronoun becomes object pronoun (e.g., he => him; she => her, etc.)

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Dynamic Morphology Examples Gateway

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Advanced and Text Phrases Gateway

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Spelling Page

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Text Pages

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Sample Text

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Child Functional Page Sets
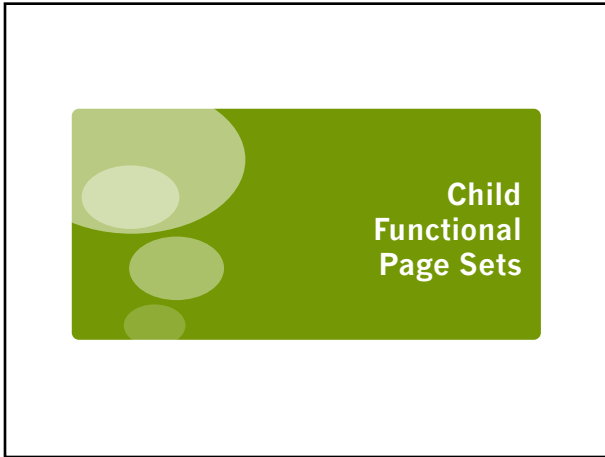
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Child Functional Page Sets

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- These page sets provide a powerful *solution for children w/ ASD* learning to:
  - Make requests and comments
  - Form simple to complex messages
  - Improve pragmatic language performance
  - Actively participate in their educational program
  - Communicate in a range of functional activities

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Features of Child Functional Page Sets?

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- High frequency Core and Fringe Vocabularies ranging from 12 to 140 buttons
- Functional Home and School MAIN pages including common preferred items and activities
- Theme Pages to support functional language development and use
- Use of Sentence Development Links
- Organization Supports LAMP principles
- Organization facilitates an easy transition from PECS
- Open pages support Classroom Participation

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Theme Pages – Support Pragmatic Language Development

- About Me
  - Basic Information about the user
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- Time to Play
  - Variety of leisure activities to support language and literacy development
- Time in Town
  - Activity page sets for community instruction and integration

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Theme Pages
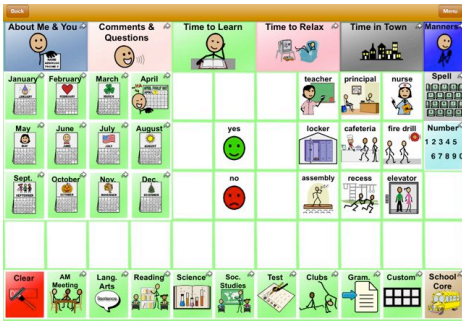
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Expressive Language Goals and Activities

- Model use of common pictures to enhance language comprehension
- Help children use pictures/objects to talk about absent objects
- Stimulate the use of answers to open-ended ?s, focused questions, and single words in succession
- Provide opportunities to model and stimulate pivot-word utterances
- Play simple language-based games that promote use of telegraphic sentences

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Teen/Adult Functional Page Sets
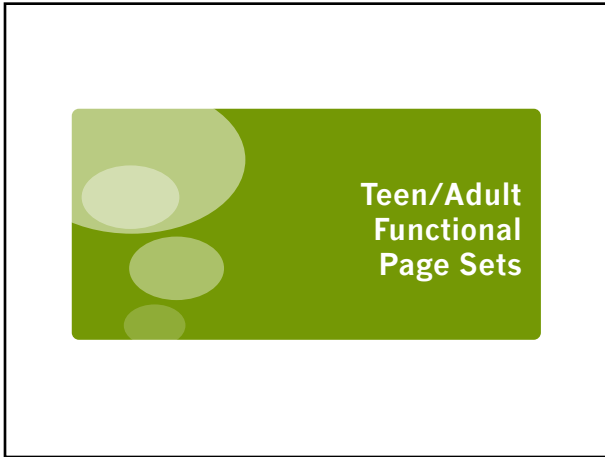
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Child/Teen/Adult Functional   Gateway

- Emphasis on nouns (person, place or things), adjectives, verbs
- Minimal use of word endings and function words
- Use of *Sentence Development Strips* and functional vocabulary
- Folders to promote AAC in school, leisure and community

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Targeted User   Gateway

- Individuals w/ ASD and other expressive language impairments
- Needs access to a functional core-word vocabulary
- Communicates using telegraphic messages; word order often impaired
- No use of grammatical markers, articles, prepositions, etc.
- May use PECS w/ "I want" sentence strip

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What's in the Functional Vocabularies

- MAIN Page that includes high frequency core and action and sensory-based fringe words
- "Sentence Development Strips for eat, drink, wear, go, etc.
- "Semantic Power Strips" to enrich vocabulary
- Fitzgerald Key organization
- Tab Set to facilitate use of language in educational, recreational and community-based activities

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Manuals

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Tx Tools

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