Gateway for Snap

USER MANUAL

Child Language and Literacy Page Set

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Child Language and Literacy Page Set

Overview

The Child Language and Literacy Page Set Level targets children with oral-motor speech disorders, with or without accompanying physical impairments, who are developing language and literacy skills following the typical sequence of language acquisition. It contains seven (7) grid sizes or grid sizes:

       3*3 (9 vocabulary buttons);
       4*5 (20 vocabulary buttons);
       5*6 (30 vocabulary buttons);
       5*9 (45 vocabulary buttons);
       6*10 (60 vocabulary buttons);
       8*10 (80 vocabulary buttons);
       9*11 (99 vocabulary buttons);

In addition to the vocabulary buttons, each grid size contains a Tool Bar that provides access to additional vocabulary or to device functions or features. The Tool Bar is explained in greater detail below.

The diversity of grid sizes provides children who are just learning to combine symbols to form multi-word messages as well as for those who are learning to form syntactically correct sentences. Children with significant motor and/or or visual perceptual limitations may benefit from a page with a small grid size (e.g. 3*3; 4*5). As skills improve, they can seamlessly move to a more complex grid size. There is a high degree of consistency in core vocabulary placement across levels minimizing the need to re-learn motor patterns. In addition to having access to the Snap grammar functions, vocabulary has been added to pages to help facilitate morphological and syntactical development.

Children with good fine motor skills can access pages with 60, 80, and 99 button on a page. The *Hide* function of Snap can be used to gradually or systematically introduce a student to a complex array thus eliminating the need to transition students through the entire range of grid sizes.

Targeted users of the Child Language and Literacy Page Set demonstrate the potential to use word endings, articles and prepositions and to create well-formed and age-appropriate sentences. These vocabularies have been constructed to facilitate teaching of language structures within an intervention context.

Vocabulary Organization and Features

- Toolbar with Access to a Dictionary and Other Key Functions.
- HOME and SCHOOL Core
- Fitzgerald Key Arrangement
- Sentence Development Strips
- Semantic Power Strips
- Theme Pages

Toolbar with Access to a Dictionary and Other Key Functions

All grid sizes within the Learning Language Vocabulary Level have a *Toolbar*, positioned on the left side of the each grid. The items contained in the toolbar have a black background and a white font so they can easily be differentiated from the core vocabulary. Using the *Hide* feature of Snap, these buttons can be dimmed or hidden if they are deemed inappropriate for the user.

The content of the Toolbar varies with the grid size. All sizes minimally contain a Themes and a Quick Chat folder. As the grid size becomes more complex and more buttons are available, additional folders and functions are added on the Toolbar. These may include a School Core, a Dictionary, a Word Forms folder, and a Keyboard.

The Dictionary icon links to folders that are not represented on the HOME page. It enables a user to more efficiently access a content word without needing to navigate through many pages. The number of folders in the Dictionary varies with the number of buttons in the grid arrangement.

A Keyboard folder is available for grid sizes 5*6 and higher. This provides access to letters, numbers and punctuation.
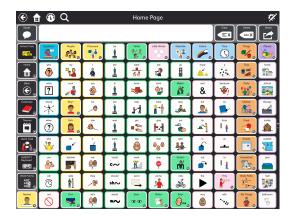
A Word Forms tool enables a user to add the correct ending to a word or to change a word when a form, other than what is desired, has automatically been added to a word. The Word Forms is included on grid sizes 5*6 and above.
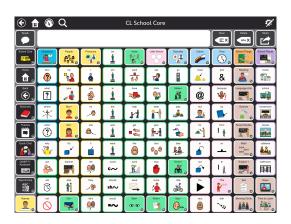
HOME and SCHOOL Core

Each HOME page contains a set of research-based high frequently core words that are accessed through a single key selection. It also contains folders linking to word categories such as QUESTIONS, PEOPLE, PRONOUNS, VERBS, LITTLE WORDS, DESCRIBE, THINGS, PLACES, and other categories such as TOYS, CLOTHES, etc. Depending up the grid size, auxiliaries and model verb forms may be included. Users may configure the Snap settings to activate its grammar function to access the full range of morphological endings.

Each grid size above the 3*3 contains a SCHOOL Core that can be accessed by selecting the *school bus icon* from the Toolbar. The SCHOOL Core replicates the contents of the HOME page for core vocabulary and grammatical category folders. It offers different fringe category folders (e.g., READING, MATH, NEWS, etc.) to reflect

topics needed for use within the school setting. This strategy enables users to access topical school vocabulary while still having access to the same core vocabulary of Gateway's HOME page. Below is an example of the HOME and SCHOOL Core for the 8*11 grid size.

Fitzgerald Key Arrangement

Each word and word category are color-coded according to the Fitzgerald Key format. As seen in the images above, People are represented in yellow; Verbs – green; Little Words – pink, Descriptive Words – blue; Things – orange and Places – purple. Folders are solid colored with a white border and buttons have a colored border. This color-coding is consistent throughout all of the Gateway pages and helps ease the transition for a child moving from one page set to the next level of complexity. Within the Fitzgerald Key, "Little Words" are defined as prepositions, articles and conjunctions and "Descriptive Words" includes adjectives, adverbs, and time words.

Sentence Development Link

The 3*3 and 4*5 and 5*6 grid sizes include a Gateway© feature referred to as *Sentence Development Links* to help children learn to form multi-word sentences and to help expand their core vocabulary. Sentence Development Links are not used on grid sizes 5*8 and higher under the premise that children at this level will be generating more unpredictable messages and require a more *open* system.

Sentence Development Links are used to provide a simplified approach to facilitate sentence formation. They are designated on the Home page using an ellipsis (i.e., …). Selecting a *verb* results in automatically opening a page of associated objects or "things" that the child can use to complete a message. For example, after selecting "eat…", a page with common foods is automatically opened.

Semantic Power Strips

Some grid sizes (e.g. 5*8; 8*10) use a Gateway© feature referred to as a *Semantic Power Strip.* *Semantic Power Strips* are sets of paradigmatically associated words, that enable a user to access related vocabulary without scrolling through pages or

popup screens. They are represented by a "solid colored button with a +" following a word. *Semantic Power Strips* are used for words such as *girl+*, *boy+*, and for some *verbs*. For example, selecting "*girl+*" will open a semantic power strip containing – girl, mom, grandma, aunt, sister, etc. The number of related words varies with the grid size. That is, a 5*8 power strip may have fewer vocabulary options presented than an 8*10 power strip, as there are few buttons on the page.

Themes

All of the Child Language and Literacy Page Sets include a set of *Theme* pages to support pragmatic language development and functional device use within educational, play, literacy, and community-based activities. The content of some set of theme pages will differ across grid sizes. Pictured to the right is a sample "Time to Play" theme page.

The *Themes* folder for this arrangement links to 8 *topical pages including: About You & Me, Comments, Questions, Time to Learn, Time to Play,* and *Time in Town*. The *About Me & You* must be personalized for the child. It provides a means for a child to provide basic information about him or herself. The *Questions* folder provides some general questions and should be customized to enable the child to ask relevant questions on an on-going basis. The *Comments* page can help a child develop pragmatic skills as he learns to use language in a variety of communicative contexts.

The Time to Play folder contains activity folders and several blank pages. Depending on the grid size, it contains a set of pages that may include such activities as *Tea Party, Dress-Up, Doctor's*, *Phone Call*, Games, and a *Jokes* page. There is a general literacy page and again depending on the grid size, books that such as "Where's Spot, Clifford's Animal Sounds, *Good Night Moon* and *Where the Wild Things Are"*.

The *Time in Town* folder has pages that can be used within the community. Each of these requires some customization so they are most meaningful for the child to use within functional activities. Pages include topics such as: *At the Mall, McDonald's, Ice Cream, Vacation, Amusement Park* and *in the Park*. The *Scouts and Religion* pages are open for customization and there are an additional blank pages to support the personal activities of the user.

The *Time to Learn* folder provides monthly theme pages, and blank pages that can be customized for each subject used in the school environment. Several of these subject folders link to the SCHOOL Core tab so the topical vocabulary can also be used when the child may be required to respond using more than a single word utterance. *Time to Learn* tab also provides access to the Common Core, Circle or Morning Meeting, as well as

folders to support academic subjects.

Why Gateway©

- Simple to Learn
- Developmental Model for Language Acquisition
- Consistent Vocabulary Placement Supports Learning through Motor Planning Principles
- Efficient Organization Results in Minimal Keystrokes Per Word

Simple to Learn

Gateway is easy to learn. The cognitive demands associated with learning symbol meanings are minimized by the use of single-meaning icons and/or written words to represent vocabulary. For nouns and many other word classes, the selected symbols provide a transparent or intuitive means of representing vocabulary. Text is used to represent some function words. This helps to reduce the need for learning arbitrary symbols to represent the words of our language that cannot be easily be represented by an iconic symbol. Symbols for verbs, adjectives and adverbs are less transparent and may require instruction to be understood by an individual who either is young or demonstrates perceptual and/or cognitive limitations.

Young children tend to separate pictures according to categories. That is, children can easily sort pictures into categories of people, colors, foods, places, and so on. The organization of Gateway reflects this developmental ability and uses a modified Fitzgerald Key Format to represent vocabulary.

Developmental Model for Language Acquisition

Gateway© meets the needs with individuals demonstrating a wide range of expressive language abilities. Many of these individuals require intervention directed towards improving their expressive communication performance. It is important that individuals who provide this intervention understand how they can use the language features designed as a part of the Gateway© to enable children who use AAC to expand their expressive language abilities.

In teaching a severely speech impaired child to communicate using the Child Language and Literacy Page Set, the course of a child's expressive language acquisition can mirror the normal language development sequence. A child can begin communicating using single words. By learning to combine symbols across pages, they can begin to form telegraphic messages. Once a child understands verb tenses, use of plurals and other morphologic endings, the child can learn to use these features to create syntactically correct sentences. Using the vocabulary and word morphology keys embedded systematically within Gateway, a child can learn to recode our language to achieve the same level of language competence as speaking peers.

Efficient Communication

Gateway has been organized to provide maximum efficiency for the user. An efficiently designed communication system enables a user to converse with a

minimum amount of effort. Gateway was designed to achieve an average $\leq$ 1.5 selections per word for *core* vocabulary words. Words considered fringe, or less frequently used vocabulary, may require two or more key selections. The number of words presented per page affects efficiency. When creating a sentence with a small grid size (e.g. 4*5, 5*6, 5*8), the average number of selections is higher than in page sets with a larger grid size (e.g., 6*10, 8*11, 9*11).

The following table presents sample sentences created using the single word vocabulary of the Child Language and Literacy Page Set Level. These sentences were generated by some of the individuals who use Gateway and demonstrate the power of the App. Grid sizes for 5*8 through 9 *11 were included in the following comparison.

Child Language and Literacy		Key Selections			
Message	# Words	5*8 40	6*10 60	8*10 80	9*11 99
We are going to eat chicken.	6	9	7	7	8
Can you help me?	4	5	5	4	5
I want to go to the mall.	7	7	8	8	5
Yesterday they helped me with my computer.	7	13	10	9	10
I want to get my sister a present.	8	13	11	10	8
Will you give it to me?	6	9	6	7	7
What do you want me to do?	7	8	9	9	9
She has to work tomorrow.	5	11	8	9	6
Total Words	**50**	**75**	**64**	**63**	**58**
Avg. # Keystrokes Per Word		**1.5**	**1.3**	**1.26**	**1.16**

How was the Vocabulary Selected?

- Frequency of Use
- Syntactical Development
- Promote Language During Leisure Activities
- Academic Needs

Frequency of Use

The vocabulary selected for use with Child Language and Literacy Page Set is based upon research and by analyzing the vocabulary contents of the communication boards of individuals who can effectively communicate across a variety of topics appropriate to their age and interests (Beukelman, Jones, & Rowan, 1989; Bruno, 1989; Carlson, 1981; Raban, 1988).   The vocabulary contain a "core" of words such as eat, drink, go, want, and have. No matter what phase an individual is within their language development, these words are a part of one's core vocabulary. Several books from a first grade curriculum were reviewed to analyze the vocabulary contents. Frequently occurring words were included as a part of the core vocabulary to enhance literacy learning activities.

Some words may be important at one phase of an individual's life and not at another. For example, bubbles are important to young children. A razor may be important to an adolescent or adult. The Developing Language Level was designed to meet the needs and interested of children in preschool through middle school.

Syntactical Development

It is the expectation that users of the Developing Language Level would turn on the grammar inflection feature of Snap which can be found in the Preferences Menu within the USER settings. For further information regarding Snap inflections settings and functions, please refer to the Snap Help and Tutorials location within the SYSTEM settings. And in the Lightbulb feature.

It is the assumption that children using the Child Language and Literacy Page Set will be receiving speech-language intervention to promote linguistic competency enabling them to form complex syntactically correct sentences.

Promote Language During Leisure Activities

Young children learn and develop language through play. Older children and adults frequently initiate communication surrounding social activities. Social vocabulary and topic pages have been designed to facilitate device use during recreational activities. For young children, pages of jokes, riddles, books, and several popular board games are included. For older children some typical leisure activities like cards and Bingo are provided. This vocabulary can be accessed through the *Themes* folder.

Academic Needs

It is expected that the individuals who use the Developing Language Level of Gateway© are elementary or middle school-aged children. To enhance a user's classroom participation and to better enable his or her ability to demonstrate mastery of the core curriculum competencies, all arrangement within this level of Gateway contain requisite vocabulary for Morning Meeting and links to pages where targeted academic vocabulary have been added. Grid sizes for the 5*8 through 9*11 include the states, countries and planets. The academic pages have also been designed to interface with the School Core page so that a user can respond using single words or syntactically correct sentences. A TEST page enables a user to independently complete a true/false or multiple choice test or worksheet without adult assistance.

Customization

Domains to Customize

- Understanding Functions and Features of Snap
- Understanding Gateway's Features
- Personal Information, Needs and Interests
- Educational and Social Information

Understanding Functions and Features of Snap

Gateway was designed using the Snap App. It is a separate Page Set within Snap. Personalization or customization of Gateway© requires that that the person assigned with this responsibility demonstrate a basic level of competency with Snap editing and operational functions. That is, a person needs to know how to edit a button. Minimally editing a button can involve changing the label, the symbol, or the text to be spoken. Gateway uses the standard Fitzgerald key color-coding. A user may opt to change button borders and backgrounds. The graphic to the right highlights the button features than can be edited.

Tobii Dynavox has extensive resources to support users of Snap. Some of these resources can be accessed within the App and other resources are on their website.

Gateway's Functions and Feature

The Gateway Vocabulary features such as *Sentence Development Links and Semantic Power Strips* were created using the programming features of Snap. The Sentence Development links are explained above and these do not require any special considerations when customizing.

On some of its grid sizes, Gateway incorporates use of *Semantic Power Strips* as a tool to provide the user access to semantically related words. After selecting a word from the semantic power strip, the popup automatically closes. This is done as a keystroke saving function, minimizing the need for a user to close the page after each word.

This same auto-close feature is used throughout Gateway's core vocabulary. When composing a message, a user can select words from the Home page and then access fringe vocabulary selecting folders such as Things, Play, Events, and the like. Each time a word is accessed on the fringe vocabulary page, the page automatically closes. Depending upon where the page is and for what purpose, it will either return to the Home Page or to the Previous Page. Should the user wish to change the setting so that the page does not auto-close, this would need to be done in the Edit Mode.

Personal Information, Needs and Interests

To customize Gateway for Snap, the facilitator needs to consider both the personal information and the needs and interests of the user. Changes considered appropriate need to be made within Gateway. The process of customizing Gateway requires knowledge of the vocabulary within Gateway, the color-coding system used within Gateway, and the fundamental categorization of the vocabulary.

Unless Gateway's vocabulary matches the needs, wants, interests and "personality" of the user, it is unlikely that the user will maximize use of the program. A second step in customizing Gateway is to add and/or change key vocabulary items and expressions. For example, the *Foods* page contains an assortment of foods and beverages considered representative of the typical foods people eat. This may or may not match the preferences of the individual using Gateway. Changes should be made to this page as needed to allow the user to communicate effectively. Family and user input should be considered in determining what changes, if any, are needed. Other

pages such as Things and Places will also require the same type of consideration in evaluating the "appropriateness" of the vocabulary provided.

Educational and Social Information

In order to help an individual meet his or her educational goals, it is imperative that the child be able to express the vocabulary targeted for the range of spoken and written educational tasks associated with each core curriculum competency. While it is recognized that Gateway does not contain all of the educational vocabulary needed by each user, it is believed that Gateway does create a framework to enable a child to meet most educational competencies. Individuals working with a Gateway user (i.e., the teachers, therapist, aides) must take an active role in adding appropriate vocabulary to this program as needed. This requires that these individuals become familiar with the contents of Gateway. It also requires that they know what vocabulary is needed to complete daily lessons. Vocabulary that is needed, and that is *not* currently stored within the Gateway vocabulary, should be added if and when determined necessary by the child's team.

Within the school curriculum, there are areas targeted for potential device use. These include *Math, Calendar* or the morning routine, Language Arts and *Monthly thematic* activities. Pages have been created for each of these areas and they also should be customized to maximize the child's classroom participation.

Implementation
- Where Do We Begin?
- Transitioning Across Grid sizes
- Teaching Language Through Use of the Single Word Vocabulary:
- Therapist's Role and Responsibilities
- Evaluating the AAC User's Abilities
- Learning to Communicate with Gateway
  - Modeling as in Intervention Strategy
  - Expansion as in Intervention Strategy
  - Teaching Vocabulary Contents and Location.
  - Highlight the Organizational Structure.
  - Using Gateway to Converse.
  - Create Opportunities to Learn New Words
  - Literacy Activities
  - Writing
  - Learning Gateway Through Traditional Language Intervention.
  - Communicating Through the Academic Pages
  - Using the Recreational Pages

Where Do We Begin?

The specific approach used to implement Gateway will vary with the needs and language abilities of the user. Gateway should be introduced to the user in a variety of functional contexts. Successful implementation requires a commitment on the part of the individuals working with the user (i.e., the facilitator, teacher, SLP) to become

familiar with Gateway's vocabulary contents and the location of these words. It also requires a commitment to customize the program to match the needs, interests and abilities of the user.

Transitioning Across Gateway Grid sizes

While individuals may begin using the (3*3) or (4*5) grid size, the developmentally based design of the vocabulary allows for a relatively easy transition from one arrangement set to another. That is, a user may begin using the 3*3, transition to 5*6, and eventually progress to one of the following grid sizes: 6*10, 8*10 or 9*11. It is important to note that users are not necessarily expected to transition through each of the grid sizes. The ability to do so however, supports the needs of children who for physical, perceptual or cognitive/language reasons may initially require larger buttons and/or a smaller vocabulary array. The goal should be success on the part of the user. Success breeds more success. Conversely, when a child struggles to find the words or continually misses his/her targeted location, frustration can set in and a child could reject using any AAC system.

For young users, a gradual introduction of developmentally appropriate word morphology features enables him or her to begin to develop language with the tools appropriate for age and abilities. The consistent color-coding helps users know where to locate various word classes and this remains consistent throughout. Also, once a word is designated as a *thing*; it is always a designated as a *thing*. The category exemplar to which a word has been assigned (e.g., bubbles to "Thing") will not change. A subordinate category may be assigned (e.g., Toy). The use of the subordinate category will vary with the page set based upon the number of buttons per page.

Because of the subtle differences between page sets, it is optimal to systematically introduce an individual to a page set within a therapy or other learning environment before fully transitioning them to a more advanced grid size. An SLP, teacher, parent or aid should help them become familiar with the new contents and locations of the vocabulary. Once they demonstrate a basic comfort level in communicating with the new grid size, the transition set can be formalized.

Teaching Language Through Use of the Single Word Vocabulary:

Each Gateway grid size contains a core of high frequency words. Learning the contents and location of this core vocabulary is only the first step in helping someone to become a competent communicator. Variables such as cognitive/language abilities, behavior, attention, motivation and frequency of use of Gateway will all impact a user's ability to gain proficiency using Gateway to communicate. The key to helping a child become a successful communicator when using Gateway is to provide effective and appropriate language intervention. That is, if a child is communicating using single words, that child needs to have guided intervention to systematically learn to combine words to form more complex messages. The environment needs to be engineered to promote device use and strategically target various language forms.

Teaching language to an AAC user is not radically different from teaching language to a child who speaks. The major difference is that for an AAC user, the medium for expression is an AAC device as opposed to speech. This being the case -

(1) the therapist must be knowledgeable of the vocabulary contents and location of words contained in the system, (2) the child must learn the contents and location of available vocabulary, and (3) words targeted for intervention activities or routine daily activities must be available within the communication device or the AAC user cannot express them.

With that in mind, the procedure for teaching language to an AAC user requires that the therapist: (a) evaluate the user's abilities; (b) define appropriate long and short term language intervention goals and (c) establish effective intervention activities to enable the AAC user to achieve the goals.

Therapist's Role and Responsibilities

Prior to initiating intervention with the child, the therapist must first become familiar with program's vocabulary. The therapist must know what words are included in the Gateway Vocabulary and how to access these words. Unless a therapist is competent in communicating with the child's vocabulary set, the therapist can neither develop appropriate therapy activities nor serve as a model in demonstrating or expanding the child's utterances.

Modeling, or aided language stimulation (ALS), is an appropriate and effective language intervention technique that a therapist can use when working with an AAC user. This technique can be used to teach the Gateway core word vocabulary. Using this technique, a communication partner interacts with the AAC user using the user's AAC system. Use of aided language stimulation requires the partner to know the contents and location of the Gateway Vocabulary. The partner can model a simple sentence (e.g., I like candy.) or follow the statement with a question (e.g., I went to grandma's yesterday. Where did you go?).

Learning the vocabulary of Gateway can be best accomplished by personally using the device to create sentences. If your student is going to be using the 4*5 or 6*10 arrangement, try reading a simple children's book using it. This functional activity will help provide a therapist with a working knowledge of the program's vocabulary. Many primary books contain high frequency words across all grammatical categories. The activity will teach the therapist how to navigate the system using words and word endings. It will also create an awareness of what words are *not* stored in the program.

Evaluating the AAC User's Abilities

While one may have a sense of a user's abilities and limitations, it is often helpful to formally assess a child's skills to set appropriate goals and to measure or document progress. Gateway provides an AAC user the tools to demonstrate his/her abilities and weaknesses. This developmentally based vocabulary contains the necessary words and word morphology features to allow a child to respond to questions on several formal tests. The child's responses will be influenced by his/her knowledge of the vocabulary contents of the system. Assuming the child has a solid knowledge of the vocabulary contents of the Gateway arrangement being used, the user's responses can be considered indicative of his or her expressive language abilities. The tests have not been normed on this population. As such, they should be

used to determine performance skills and set intervention goals, rather than to obtain percentiles, standard scores or mental ages. A user's physical and behavioral characteristics need to be considered in the testing process

Unlike working with a speaking child, evaluating an AAC user's expressive language performance must follow the user's introduction to his/her communication system. If we want to see how a child uses language, we must first let the child become familiar with the core vocabulary. Depending upon variables such as how often is the child given access to the system, how much vocabulary it contains and how much intervention is being provided, a therapist's assessment can occur within 3-4 weeks after the system is introduced. The more opportunity the child has to become familiar with the vocabulary, the more reliable the assessment will be.

Once the child learns what words are available in the system and how to access these words, one can then assess how the child combines these words to formulate messages. One can also evaluate what types of communicative functions the child is using. Assessment can be informal or formal. Language measures can include a language sample or they can include formal test measures such as the Preschool Language Scale (PLS) or the Test of Language Development (TOLD).

The Gateway Child Language and Literacy Page Set Level contains the vocabulary a child needs to respond to most questions on the Preschool Language Scale. That is, it gives the child the tools he or she needs to demonstrate his expressive language abilities. The 5*8 and higher grid sizes contain the vocabulary and morphological endings needed to take the TOLD. A therapist can administer these tests as they would to a speaking child. Most of the targeted words the child needs to answer the questions are contained within these Gateway arrangements.

Learning to Communicate with Gateway

The general strategies used to teach Gateway are straightforward. The primary goals must be to insure that the user learns the vocabulary contents and organizational structure of Gateway. Once specific language intervention goals are identified, functional activities can be designed and implemented.

For an individual who has functionally used a communication board or other AAC App with a significant number of single words prior to receiving Gateway, introduction to this program should flow as a logical extension of his or her use of the manual board or App and to the teaching strategies already in place. That is, the individual will need to be oriented to where vocabulary is located, and what vocabulary is available, but it would be expected that the individual's performance with the Gateway program should eventually mirror or exceed his or her performance with his/her other system. As the individual learns more vocabulary, and is exposed to advanced language features, it would be expected that the individual's language performance would improve. Strategies that have been used successfully to teach language should be continued.

Modeling As An Intervention Strategy. For a child who has not previously used a single word vocabulary system, an effective clinical intervention strategy is the use of modeling or aided language stimulation. In modeling system usage, the

facilitator (e.g., parent, aide, teacher, therapist) takes a lead role in using the device to talk with the child. Using this approach the child is indirectly guided through the system. The child sees where specific vocabulary is stored, and what page links must be accessed to select targeted vocabulary. The child may also be exposed to a range of grammatical morphemes such as possessives or contractions that can be used in expressing different word forms (e.g., questions, statements, imperatives).

Modeling serves an additional purpose for both the child using the system and the adults working and or interacting with him. It reveals what vocabulary *is* and *is not* available within the page set. It serves as an indirect approach to determining what vocabulary needs to be added or deleted to personalize and optimize the system for the user. Modeling demonstrates that the spelling and word prediction feature may be accessed to express words not in this vocabulary program. It can show a child how to select a word using word prediction.

Children typically find dynamic display systems easy to navigate. Page links lead the child to explore new vocabulary. Modeling lets the facilitator assume the role of "Tour Director". The facilitator shows the child which "locations" to visit and does so in the appropriate communicative context. Modeling may also serve to demonstrate new and more complex ways for the child to use language.

Expansion As An Intervention Strategy. Expansion is another strategy that can be used to improve a child's expressive language performance. The facilitator can use the vocabulary within Gateway to expand the complexity of the child's messages. For example, if the child says, "I go school." The facilitator can offer positive feedback, clear the display and model the expanded message, "I am going to school." Expansion involves adding or expanding the message that the child originally generated. The goal of expansion is to help the child learn to create more complex messages than he or she is currently using or to construct syntactically correct sentences. Many children who have not had the opportunity to use a language board, or a device with grammatical markers or functions words as a part of the core vocabulary, may need instruction to learn how to form age appropriate messages in the course of routine conversation.

Some children determined to be candidates for a Gateway page set may exhibit an expressive language impairment. They may understand language, but they may not know how to form sentences or even what to say. Language intervention strategies and approaches typically used with speaking children who exhibit similar limitations, can be modified and implemented with children using Gateway.

Teaching Vocabulary Contents and Location. Teaching contents and location can be accomplished through focused intervention as well as through games and recreational activities. If the user does not know what words are available to him/her to create a message, unless the user can spell, he will not be able to formulate messages to express needs, wants, or ideas. Some strategies that can be used to teach the single word vocabulary include: (a) highlighting the organizational structure, (b) using Gateway to "talk", (c) creating opportunities to learn new words, (d) reading, (e) writing and (f) traditional language intervention.

Highlight the Organizational Structure. Regardless of which Gateway grid size (e.g., 3*3, 4*5, 6*10, 8*10, 9*11) is selected for the user, the augmented communicator should be systematically introduced to the MAIN page, which is the core of the single word vocabulary. Each of the color-coded word categories should be pointed out along with its corresponding color-coded page link. A rationale for the color of some command keys has been established. It is felt that the color-coding may help some augmented users learn to locate words more quickly.

Using Gateway to "Talk". Often children who use AAC do not talk for the purpose of sharing information. They use their devices to request and to respond. Efforts should be made to engage the child in a meaningful dialogue. Teach the vocabulary by talking with the augmented communicator. While this dialogue may need to begin with a question such as "What did you do last night". The goal would be that even if the child responds with a single word answer – "baseball game", modeling and expansion would help the child describe the activity or event with greater detail. That may mean that more questions are asked of the child and it may be that move examples are given to the child in the form of sharing information.

Create Opportunities to Learn New Words. Based upon the age and or cognitive level of the augmented communicator, it may be helpful to systematically introduce each page, and when doing so, integrate vocabulary from other pages as appropriate. To teach the "people" on the Main page or on the People page, a therapist can show a user his family photos or other people. The user can tell "who" the person is; name the other people who live in the same house; tell how the person is related (i.e., friend, aunt, uncle) and so on.

Activities such as placing objects in a bag and having the child "guess what's in the bag" or selecting something and then naming it, can be used to teach items on the *Things* page. Lotto games can be created to teach other pages. Games such as Outburst, Jr. can enable a user to have fun and enjoy learning to locate words within targeted categories. "Simon says" can be played to teach verbs or action words. Pages can be printed or copied onto the appropriate colored paper for each category to help teach the color-coding in addition to the vocabulary contents.

Similar activities may be done to introduce the other pages such as, *Little Words, Describing Words* and *Places*. To teach the verbs, the child can play Simon Says or a pantomime game. Allowing the child free time to explore the vocabulary may also serve as a powerful learning tool.

Literacy Activities. Not all communication is spoken. Children enjoy being read to and also having the opportunity to read out loud. There are some books stored in Gateway that children can read. While they are selecting a "button" to read an entire page, after they read a page or the entire story, they can be asked questions about the story, where they respond using the Gateway core word vocabulary. Another option may be to read the story with the user and the adult stops. The child must "read" the next word, using the Gateway core or fringe vocabulary. There are many ways to engage a child in a literacy activity with Gateway© and it is an excellent way to help a child improve his/her competency with Gateway and their expressive language abilities. Some ebooks, were designed to help children who are users of Gateway develop

mastery of their core. Information about these books can be found at
http://www.gatewaytolanguageandlearning.com/products/ebooks/.

Writing. Writing is also an excellent way to help a child master the Gateway core and also to build expressive language abilities. Writing activities can be as simple as having the child complete a fill in the blank activity, or it can be as complex as having a child write a narrative. Most importantly, the writing activity should match the child's expressive language abilities.

Learning Gateway Through Traditional Language Intervention. For younger children, playing with a doll house can not only teach the names of family members and places within the house, it can be a wonderful activity for teaching a child to form two-word messages describing what they did with a doll or what they want you to do. Sentences such as "wash-baby", "go-eat"; play-upstairs can be created using the Gateway program. A functional language activity helps to teach a child what vocabulary is in the device and where it is located, and it help teach the child language form as well as the power of communication.

The Gateway core contains many of the frequently used words of our language. As such, for older children many games and therapy materials can be used with only minimal modifications. Some materials may require more modifications than others. Two good examples of therapy materials that require little modifications are *Just for Me!* (Concepts) and *"SPARC* for Grammar" produced by LinguiSystems. Some commonly used games and therapy activities include: Chutes and Ladders; Jeopardy, Outburst, Jr., Secret Square; 1st grade level reading books, the Clifford book series, or single line storybooks. When an "off the shelf" game or activity contains words of little interactive value to the AAC user (e.g., kite, mouse, umbrella), it is suggested that the activity be modified rather than changing the vocabulary of the Gateway program to accommodate the program unless changing that vocabulary will ultimately increase device use long term.

There are many ways to teach Gateway. How it is taught can, and should, vary with the needs and abilities of the user. The suggestions provided here are just that, suggestions. The user's speech language pathologist is key in the implementation process. A therapist or communication partner should communicate to the child while using Gateway, creating messages with the words of the Gateway program.

Communicating Through the Academic Pages. Enabling a child to master the core curriculum standards is a challenge for those using AAC devices. It is impossible to include all needed educational vocabulary in any page set. Even if the space was available to do so, recalling the location of the needed vocabulary would be extremely difficult to achieve based the fast pace of a regular classroom setting. In an effort to help users of Gateway page sets actively participate in their educational programs and/or demonstrate mastery of the core curriculum standards a framework for customization has been established. There are open pages tied to subject folders. These can be customized as needed. It is recognized that a year's worth of classroom vocabulary cannot be stored, but typically there is room to accommodate chapters.

For some simple areas such as Morning Meeting (e.g., Circle Time) typically used vocabulary has been included in each of the grid sizes. That is, a child can describe the weather, and tell the day, date, week, or month.

Using the Recreational Pages. There is no question about the fact that children enjoy play activities. Children can and do learn through play. Within Gateway there are a variety of pages designed included to help children develop their language skills during play. Typically, a child would need help from their communication partner to access appropriate messages while playing the game.

Sample Practice Exercises for Using Gateway© for Grid Sizes 5*8 and Higher

Exercise 1. The goal of this exercise is to practice using words from the HOME page and the folders for THINGS, FOODS, CLOTHES, TOYS, and PLACES.

HOME	THINGS	FOOD	CLOTHES	TOYS	PLACES
I go to					McDonalds
I want to go to the					picnic
You have the	book				
I want to play				cards	
Mom and dad eat		dessert			
You play with				bubbles	
I made the			hat		
Mom has the	camera				
I want	something				
Drink the		milk			
Mom makes the			costume		

Exercise 2. The goal of this exercise is to practice asking "questions" using words from the Question folder and combining them with words from the HOME page and the folders for verbs (ACTIONS), THINGS, FOODS, TOYS, HOUSEHOLD and PLACES.

QUESTIONS	HOME	VERBS	FOOD	HOUSEHOLD	PLACES
Who will she	help				
Where are we	eating		dinner		
Where is the				towel	
Can he		work			
Couldn't you	go				to the parade
How come they	eat		fish		

Exercise 3. The goal of this exercise is to make sentences combing words from the HOME page with words from PEOPLE, LITTLE WORDS, TOYS, and PLACES.

PRN	PEOPLE	HOME	LIT WDS	CLOTHES	PLACES
My	teacher	went (go)			to the zoo
His	friend	wore (wear)		shorts	
They		went (go)			to the

					store
She		play (play)			
Their	class	made (make)		hats	

Implementation Suggestions

Sample lesson plans can be found on the Gateway website – www.gatewaytolanguageandlearning.com.

Summary

Gateway is a powerful core word page set complemented with rich pragmatic pages. Since 1998, Gateway has helped many young children become competent communicators and achieve academic success. It has enabled competent communicator to efficiently and effectively meet daily communication needs across environments. Success in using Gateway is highly correlated with how its user is supported in learning the contents of the page set and in having access to his or her device when appropriate.

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Implementation Suggestions

The following is a sample lesson plan that can be used to generate some ideas of how to teach the Gateway vocabulary.

Therapy Resources for Teaching Gateway©
Joan Bruno, Ph.D., CCC-SLP

Using I and Me Fun Deck™

Using I and Me Fun Deck™ is a card game, produced and distributed through Super Duper Publications (FD# -61) www.superduperinc.com. It is designed to teach the correct use of the pronouns I and me. The card deck contains 54 cards with each card of the pair depicting *I* as the subject and *me* as the object of the proposition. Since the game uses proper names for the characters depicted on the card, it is suggested is that a pronoun be substituted for them when using any of the Gateway page sets. The *Using I and Me Fun Deck* is an appropriate therapy tool for children, aged 4 years and up, who use Gateway© 40 or 60. It comes with suggested activities for how the cards can be used.

Gateway© Intervention Goals:
  __X__ **Vocabulary: Acquisition** –Pronouns I, me; with
  __X__ **Expressive Language: Syntax** – I as Subject; me as Object of Proposition; Simple declarative sentences

Suggested AAC Intervention Strategies: Modeling   Expansion   Aided Language Stimulation

Subject	Gateway 40	66	Verb	Gateway 40	66	Lit Wd	Gateway 40	66	Desc Wd.	Gateway 40	66	Object	Gateway 40	66
I	X	X	Am, are	X	X	On	X	X	Near		X	Trip (vacation)	X	X
Me	X	X	Will	X	X	Off	X	X	Next (Time)	X	X	Turtle		X
We	X	X	Ask	X	X	The	X	X				Lion	X	X
My	X	X	Go	X	X	A	X	X				Snow	X	X
us	X	X	Stand	X	X	To	X	X				Party	X	X
Grandpa	X	X	Write	X	X	Beside	X	X				Tree	X	X
Brother	X	X	Sit	X	X	About	X	X				Cupcakes	X	X
Teacher	X	X	Play	X	X	At	X	X				Game	X	X
Sister	X	X	See	X	X	By	X					Soccer (football)	X	X
Friend	X	X	Give (receive)	X	X	From	X					Report	X	X
Cousin	X	X	Finish	X	X	With	X					Gift (present)	X	X
Mom	X	X	Eat	X	X							Table	X	X
It	X	X	Read	X	X				**PLACES**			Ice cream	X	X
			Paint	X	X				Pool (Place)	X	X	Book	X	X
			Walk (hike)	X	X				Store	X	X	Cat	X	X
			Help	X	X							Picture	X	X
			Let		X							Bus	X	X
			Fall	X	X							Dog	X	X