

# MINSPEAK® AND UNITY®

By John Halloran, MS, CCC-SLP

## I. Historical Background

Minspeak was introduced in the early 1980's by Bruce Baker. Minspeak uses pictures called icons and takes advantage of our normal tendency to associate more than one meaning with an item. For example, a picture of an apple might represent not only "apple" but also any other concept we can associate with apple, such as "fruit," "red," "juicy," "crisp," and "bite."

By using multi-meaning icons, Minspeak uses a limited number of icons to represent a very extensive vocabulary. With a small number of icons, the requirements for access are reduced and minimal keystrokes are required to retrieve vocabulary.

Although Minspeak was originally used to represent sentences, it was soon evident that individuals, even those with significant cognitive challenges, were more interactive communicators when given a set of single words rather than whole messages.

Several Minspeak Applications Programs, or "MAPs," emerged. Each of the MAPs was developed for a designated set of individuals and there was no planned coordination for transition from one MAP to another. When it was time to change to another MAP, extensive relearning was required.

## II. Unity

Unity was developed to minimize the difficulty in transitioning from one vocabulary to another. It is designed to grow as the individual's communicative ability develops.

Unity is based on a consistent set of icons, with a consistent arrangement, and consistent icon sequences for representing language. This promotes automatic use, as well as minimizing relearning when transitions in vocabulary are made.

The consistency in Unity also reduces the demands on facilitators, teachers, parents, and therapists. Using Unity, they can build lessons around a common vocabulary, set of icons, and icon sequences. This eliminates the need to create, teach and learn multiple symbol representations. A therapy idea that is developed for one Unity user can be used successfully with another Unity user, even if the second individual is at a different point within the Unity vocabulary.

## III. Cognitive and Age Ranges

Unity can start out at a very basic point, such as having one icon represent one message. It can build systematically from this point potentially offering thousands of words. Because of this flexibility, Unity is appropriate for persons of almost any cognitive level or stage of language development.

## IV. What Words to Use

An augmented communicator whose communication device provides whole messages is able to communicate only that vocabulary which is provided for him/her. However, someone using a word-based vocabulary has the option of generating his own messages. Sentences and phrases allow for speed in the communication process and should be a part of any AAC vocabulary set, but single

words should not be excluded. Unity is a word-based vocabulary with sentences and phrases included.

There are more than 200,000 different words in English. About 20,000 of them are considered "common" and used by everyday people. By the time speaking children are two years old, they use about 2000 different words in a single day. By age ten, they might use as many as 5000-7000 words in a single day. (VanTatenhove 1996)

The task of teaching such a large vocabulary seems virtually impossible. This leads us to study "core" vocabulary, or the words that occur most frequently. In a 1987 study, Vanderheiden and Kelso discovered that the 50 most frequently occurring words account for 40 to 50% of the total words communicated, while the 100 most frequently occurring words account for 60% of the total sample.

In Marvin, Beukelman, and Bilyeu's 1991 study of preschool children, the 50 most frequently occurring words represent approximately 60% of the total sample, while the 100 most frequently occurring words account for 73% of the total sample.

In a 1992 study by Adams, Ronski, Deffebach, and Sevcik, 12 youths with moderate to severe mental retardation were studied. The youths had been using an augmentative communication system that provided only primary nouns. The subjects were given social regulative symbols such as "please" and "I'm finished." The social regulative words "were used as soon as they were introduced and their availability expanded the focus of conversation both at home and at school." According to the authors, "the rapidity with which the subjects in this study adopted social regulative lexigrams suggests that terms that lack ready picturability are not necessarily more difficult for people to use. Our findings suggest the symbol vocabularies, which youth with severe mental retardation can learn, may have been underestimated by limiting their composition to concrete nouns."

"Certain words such as "no" or "more" have broader application to objects and events than other words, such as "cookie" or "car" and thus may be heard more often and will serve the child more frequently in his or her effort to communicate," according to Bloom and Lahey, 1979.

Core vocabulary consists of the most frequently occurring words. Studies have shown that core vocabulary is remarkably consistent across speaker, age, topic, and cognitive ability.

Fringe vocabulary refers to the less frequently occurring words that are specific to a speaker or a situation. In this familiar nursery rhyme, the fringe vocabulary is italicized and the remaining words are core vocabulary:

*Humpty Dumpty* sat on a wall.  
*Humpty Dumpty* had a great fall.  
All the *king's horses* and all the *king's men*  
Couldn't put *Humpty* together again.

## V. Words Have Multiple Meanings

Children and adults using word-based systems often create their own combinations with new meanings. When a toddler says "me go" he may mean "I want to go outside," "I need to go to the bathroom," or "May I go with you?"

Here is an example of a word with multiple meanings:

- Back* off Big Daddy
- Back* up the disk
- Touch your *back*
- Back* up the car
- You're *back* again
- Who will *back* me up if it doesn't work?
- He is the most *back* woods person I know.

Although the meaning of a word may vary, the articulation of that word remains the same. Unity would handle this word in a similar manner. The word "back" is stored under one consistent symbol sequence and can be used for any of the varying meanings, which parallels how "back" is used in spoken English.

## VI. Motor Planning and Language

Where is the "q" on the keyboard and what letter is next to it? For those of you who type, the motor movement may have been automatic, requiring less thought; you may only be able to retrieve it by positioning your hands for typing. Any learned movement pattern does not just happen, but is practiced repeatedly. (Bly, 1963; Campbell, 1988; Guild, 1990).

Performing a motor movement repeatedly in a consistent pattern improves performance. Athletes refer to this as muscle memory. In AAC, we refer to it as automaticity. Unity incorporates consistent movement patterns, permitting the user to develop automaticity. Because Unity maintains consistent placement of icons from one overlay to another, the motor patterns do not have to be relearned when transitioning. Some individuals who use Minspeak do not need to see the icons to use their devices because they have developed automaticity. This type of motor movement also allows individuals with visual and motor challenges to be very successful communicators.

## VII. Literacy

Karen Erickson, Ph.D., has worked extensively in literacy and AAC. She wrote that literacy learning and Minspeak do not have to be viewed as separate learning processes. She stated that "a potentially synergistic relationship exists between literacy and Minspeak whereby increased competence in one can lead to increased competence in the other." She went on to say "Minspeak can actually enhance literacy learning and vice versa because Minspeak and literacy share some important features: a) both Minspeak and literacy are generative; b) they both are rule based processes of communication; and c) they are both learned through active engagement in meaningful activities and environments."

For additional information about Minspeak and Unity:

1. Visit <http://www.prentrom.com/training/etraining> and enroll in the free e-training course "[ECO-14/Vantage Lite - Unity: The Language Behind the Device.](#)"
2. Visit <http://www.prentrom.com/downloads> Vantage Lite demo. Follow the tour guide on the demo.
3. Visit the Semantic Compaction website. <http://www.minspeak.com>

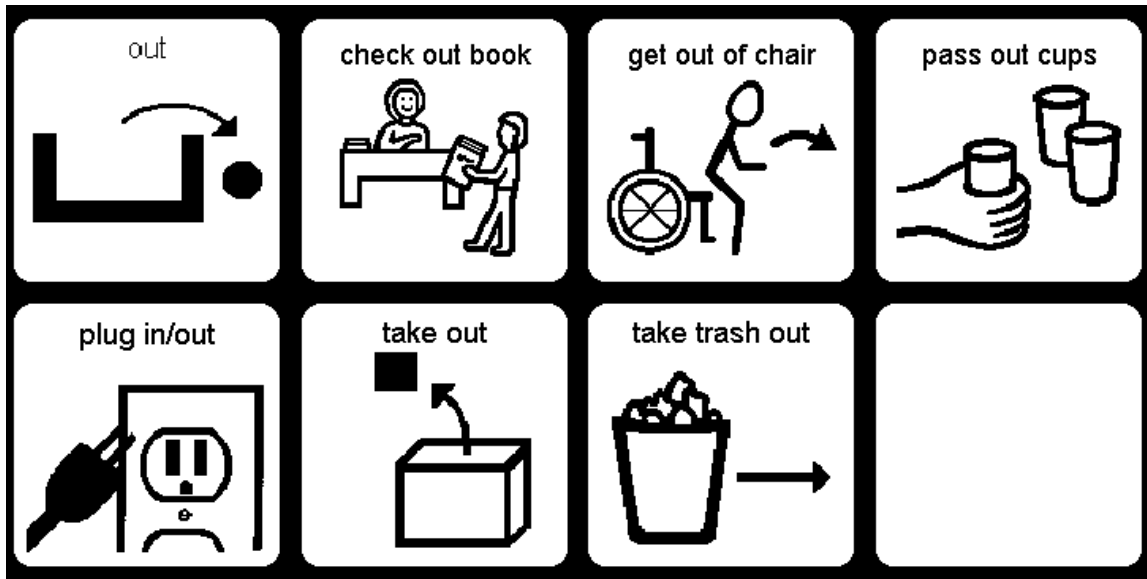
Frequently Occurring Home and School Words from "Vocabulary-Use Patterns in  
 Preschool Children: Effects of Context and Time Sampling

Christine A Marvin, David R. Beukelman, and Denise Bilyeu

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|          |            |         |
|----------|------------|---------|
| about    | can't      | get     |
| after    | candy      | gets    |
| again    | car        | getting |
| ah       | catch      | girl    |
| all      | cause      | girls   |
| almost   | chair      | give    |
| already  | come       | go      |
| also     | comes      | goes    |
| an       | cookie     | going   |
| and      | corn       | gonna   |
| another  | could      | good    |
| ant      | couldn't   | great   |
| any      | cup        | green   |
| are      | cut        | guys    |
| aren't   | day        | had     |
| around   | did        | hair    |
| as       | didn't     | hand    |
| at       | different  | hands   |
| away     | do         | has     |
| baby     | does       | have    |
| back     | doctor     | haven't |
| bad      | doesn't    | he      |
| bad      | dog        | he's    |
| ball     | doing      | her     |
| bathroom | don't      | head    |
| be       | done       | hear    |
| bean     | door       | hello   |
| because  | down       | help    |
| before   | drink      | here    |
| being    | duck       | here's  |
| bet      | eat        | hi      |
| better   | eating     | high    |
| big      | else       | hill    |
| bird     | even       | him     |
| birds    | everybody  | his     |
| bite     | everything | hold    |
| black    | face       | home    |
| blue     | fall       | horse   |
| both     | find       | hot     |
| box      | finger     | house   |
| boy      | fire       | how     |
| bugs     | first      | huh     |
| but      | five       | hum     |
| buy      | fixed      | I       |
| by       | fly        | I'll    |
| bye      | foot       | I'm     |
| call     | for        | if      |
| came     | from       | in      |
| can      | found      | inside  |

|         |           |          |         |
|---------|-----------|----------|---------|
| is      | off       | tape     | went    |
| isn't   | oh        | tell     | were    |
| it      | other     | than     | what    |
| it's    | ok        | that     | what's  |
| juice   | old       | that's   | when    |
| jump    | on        | the      | where   |
| jumped  | one       | their    | where's |
| jumping | only      | them     | which   |
| just    | open      | then     | while   |
| kind    | or        | there    | who     |
| know    | our       | there's  | who     |
| last    | ours      | there's  | whole   |
| leaves  | out       | these    | why     |
| let     | over      | they     | with    |
| let's   | paint     | they'll  | won't   |
| lift    | people    | they're  | would   |
| like    | pet       | thing    | ya      |
| little  | name      | things   | yes     |
| long    | pick      | this     | yet     |
| look    | piece     | those    | you     |
| looking | play      | three    | you'll  |
| lot     | please    | threw    | you're  |
| lunch   | push      | through  | your    |
| made    | put       | time     | yours   |
| make    | ready     | to       |         |
| man     | really    | today    |         |
| many    | red       | together |         |
| may     | remember  | too      |         |
| maybe   | ride      | top      |         |
| me      | right     | toys     |         |
| mean    | room      | trees    |         |
| messy   | run       | try      |         |
| middle  | said      | trying   |         |
| mine    | same      | turn     |         |
| mom     | saw       | turtles  |         |
| mommy   | say       | two      |         |
| more    | see       | um       |         |
| most    | she       | up       |         |
| move    | she's     | us       |         |
| much    | show      | use      |         |
| must    | shut      | used     |         |
| my      | side      | very     |         |
| myself  | sit       | wait     |         |
| Name    | so        | want     |         |
| name    | still     | wanted   |         |
| named   | some      | was      |         |
| need    | somebody  | wasn't   |         |
| never   | someone   | watch    |         |
| new     | something | water    |         |
| next    | sometimes | way      |         |
| nice    | somewhere | we       |         |
| no      | stop      | we'll    |         |
| not     | stuff     | we're    |         |
| of      | swing     | well     |         |



*Dear Abby*

Variations on "up" serve to spice up our language

By Abigail Van Buren

Dear Abby-

Some time ago, you published an item on the word "up"-how frequently it is used, and how comical it sometimes sounds. Will you please publish it again?

-Mrs. F.M.

Drummer, Knoxville, Tenn.

Dear Mrs. Drummer-

Your letter was a real "upper." Many thanks. Here's the piece:

WHAT'S UP

"We've got a two-letter word we use constantly that may have more meanings than any other. The word is UP."

"It is easy to understand UP, meaning toward the sky or toward the top of a list. But when we waken, why do we wake UP? At a meeting, why does a topic come UP? And why are participants said to speak UP? Why are officers UP for election? And why is it UP to the secretary to write UP a report?"

"The little word is really not needed, but we use it anyway. We brighten UP a room, light UP a cigar, polish UP the silver, lock UP the house and fix UP the old car."

"At other times, it has special meanings. People stir UP trouble, line UP for tickets, work UP an appetite, think UP excuses and get tied UP in traffic."

"To be dressed is one thing, but to be dressed UP is special. It may be confusing, but a drain must be opened UP because it is stopped UP."

"We open UP a store in the morning, and close it UP in the evening. We seem to be all mixed UP about UP."

"In order to be UP on the proper use of UP, look UP the word in the dictionary. In one desk-sized dictionary, UP takes UP half a column; and the listed definitions add UP to about 40."

"If you are UP to it, you might try building UP a list of the many ways in which UP is used. It may take UP a lot of your time, but if you don't give UP, you may wind UP with a thousand."

-Frank S. Endicott