

Comparison of Unity® and LAMP Words for Life®

Purpose of this document: To provide a useful, informative and objective reference of two, visually similar but different Minspeak® vocabularies

Definition of Terms:

Language representation: There are 3 ways words can symbolically be represented on an AAC System: Alphabetic/orthographic (ABC), single meaning picture, and semantic compaction, which incorporates multiple-meaning symbols. In actuality, all pictures are multi-meaning and the associations made depend on an Individual's experience with the object that the picture represents. For example, consider the 🍏 . The *single-meaning* representation would be "*apple*" while as a *multi-meaning* symbol, the use of this picture would be expanded to include the color "*red*", the category "*fruit*", the action "*eat*", etc.

Minspeak is the tradename for semantic compaction. It is a method of representing language using multi-meaning pictures/symbols in a rule-driven manner.

Unity is an AAC language system that resulted from our earlier vocabulary programs that use the Minspeak method. It is the oldest robust core word vocabulary program available. Unity is available in the Accent®, the Via® and now as an iOS app. NOTE: There are subtle differences in Unity between the Accent and iOS versions mostly noticeable in the Activity Row (top row).

LAMP Words for Life is based on Unity. It was developed following successful outcomes using it with non-speaking individuals with autism but was designed specifically to follow the principles of the Language Acquisition through Motor Planning approach. LAMP WFL is available in an Accent, Via, the NovaChat® and as an iOS app.

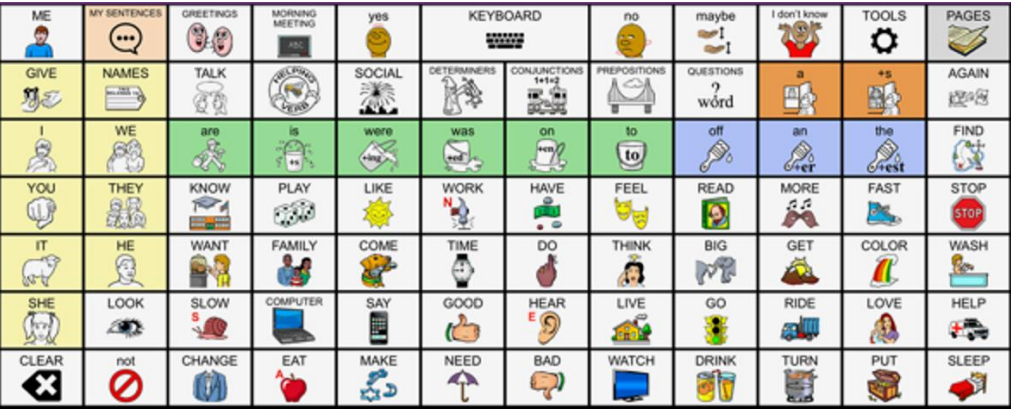
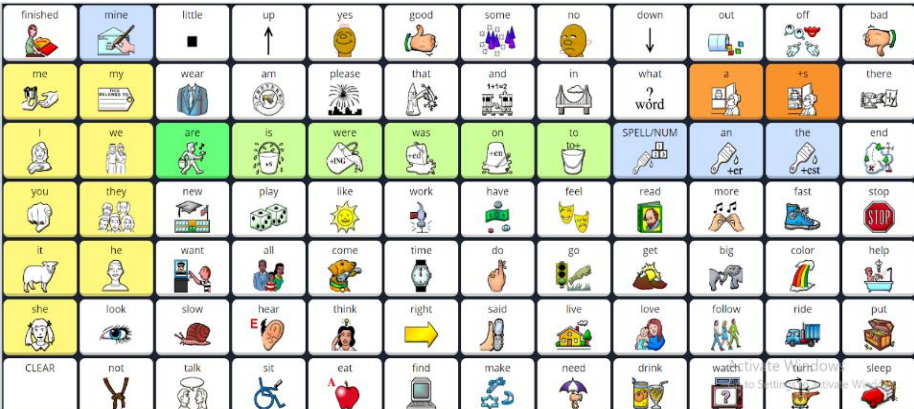
LAMP WFL VI is a visually accessible version designed for individuals who are blind or have low vision. It features high-contrast icons and simplified motor plans, and its design allows for the use of keyguards/TouchGuides that offer tactile supports. All these features help users to locate words more easily.

One-Hit versions allow users to speak words by selecting a single symbol. This setup is helpful for some early communicators because it supports quick success and reinforces motor patterns through immediate auditory feedback. However, 1-hit vocabulary is not a required starting point or a step that must be mastered before using a full vocabulary.

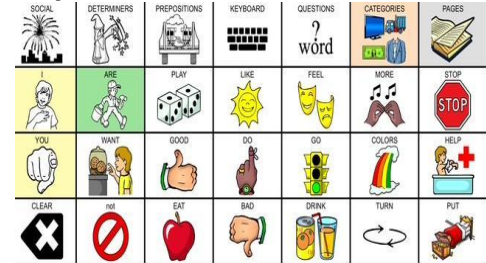
Sequenced/Full vocabulary includes multi-hit sequences that unlock thousands of words while keeping motor plans consistent. Some learners may benefit from starting with the sequenced/full vocabulary right away, while others may use 1-hit vocabulary to build confidence and engagement. The choice depends on the individual's needs, not a fixed progression.

Important things about the Home Screen for Unity and LAMP Words for Life:

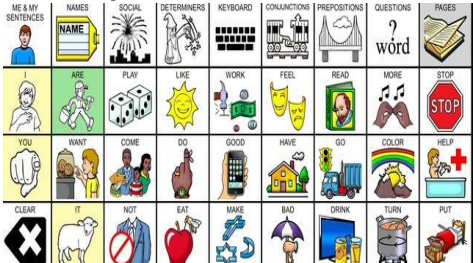
- *Symbols should remain as they are:* It is strongly recommended that the symbols on the home screen remain unchanged as they are specifically designed to facilitate the multi-meaning use of the symbols. Symbols on the home page represent larger word families and become the starting point for building motor plans.
- *Word families:* Each symbol opens to vocabulary that is related to that symbol. For example, selecting  gives access to words including thirsty, suck, swallow, full, empty etc. Organizing vocabulary in word families is what is so wonderfully unique about a Minspeak® system.
- *Foundations for motor plan:* Symbols on the home screen represent larger word families and become the starting point for building motor plans. Consistent word placement allows the learner to develop motor automaticity, which increases speech and reduces cognitive load.

UNITY (Unity AAC iOS app - 84 sequenced unless specified)	LAMP Words for Life (84 Full unless specified)
Top Row: Referred to as “Activity Row” and it provides quick access to high frequency topics like personal information (ME), Greetings (GREETINGS), calendar words. Button Labels on home screen: Unity labels are upper case which means they lead to additional vocabulary. Once a symbol is selected, a lowercase label is a cue that a button will speak the word indicated above the picture. 	Top Row: LAMP WFL uses the top row for high frequency core words with consistent motor plans. Button Labels on home screen: LAMP WFL labels are lowercase to maintain consistency with the appearance in LAMP WFL 1-Hit. Once a symbol is selected, a lowercase label is a cue that a button will speak the word indicated above the picture. 
Button Size Options: LAMP WFL provides one grid size of 84 buttons. Unity has multiple options. Clinically, you will want to choose the smallest buttons (giving you the largest vocabulary) that the AAC user can access, physically and visually. The goal is to minimize transitions from one vocabulary to another and disruptions to learned motor plans. The Unity AAC app offers 28, 36, 60, and 84 grid sizes for both 1-hit and sequenced vocabularies: - More button sizes were designed to accommodate access and visual needs. - Facilitators may strongly believe that it's necessary to start with larger buttons rather than with the 84 keys with vocabulary builder. NOTE: Unity in an Accent device offers 1-hit and sequenced versions for 28, 36, 45, 60, 84, and 144. You will also find 4, and 8 1-hit grid sizes that introduce the Unity icons and a 15-1 hit grid that is a basic intro to Unity structure.	LAMP Words for Life offers an 84-location button size: 84 buttons provide access to a robust vocabulary. - the Vocabulary Builder tool can be used to mask vocabulary. This facilitates accuracy in lieu of a larger button size. - maintaining consistent button size and location allows the user to develop motor plans that will never change over time. There are 2 pre-programmed vocabulary options: 1-Hit - for those who have a need for immediate auditory feedback. Full - all preprogrammed words are available. NOTE: To ease the move from 1 hit to full, a <i>Transition</i> Vocabulary is available as a vocabulary builder list. It contains 204 words that are accessed by sequences and includes the words found in 1-hit plus other high frequency core and fringe words. There is also space to customize “passion” words.

Unity 28



Unity 36



Word Count

- Only root words are counted.
- Numbers, letters, phonemes, blends and symbols are not counted for the purposes of this comparison.

84 Sequenced = 5,546 words	84 1 hit = 1,977
60 Sequenced = 4,039 words	60 1 hit = 1,922
36 Sequenced = 2,224 words	36 1 hit = 1,500
28 Sequenced = 1,061 words	28 1 hit = 734

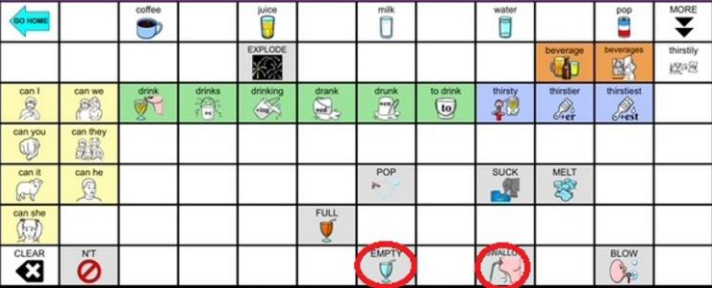
84 Full = 3,515 words 84 1 hit = 84 words 84 Transition = 204
NOTE: LWFL has fewer words because differences in organizational supports. Mid-sequence labels represent all words found by touching that button. That leads to more mid-sequence buttons to represent those root words. Less frequently used words were not included to limit visual clutter.

Color-Coding

Both Unity and LAMP WFL use Color-Coding on the Home page

Yellow = Pronouns Orange = Nouns Blue = *Adjectives Green = *Verbs

*Examples below demonstrate how the words EMPTY and SWALLOW are color-coded for each vocabulary: Unity uses grey for the mid-sequence key. LAMP WFL mid-sequence key color indicates the part of speech. e.g. green indicates verb (swallow) and blue indicates an adjective (empty). If there is an associated adjective and verb, color-coding defaults to green.



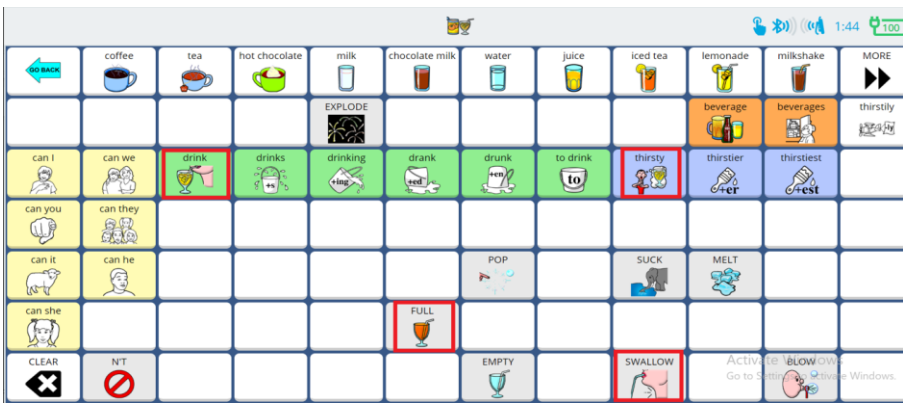
Alternative Symbols IMPORTANT TO NOTE: At this time, the ability to turn Alternative Symbols on/off is currently only available in the ACCENT. Default in iOS is ON.

Alternative Symbols (known as *Embellished Icons* in the Accent/NuVoice) are symbols that are drawn to be “more representative” of the word. The tool was developed as an option because at first glance, facilitators believe that they cannot teach the symbols using multiple meanings. Some believe that alternate symbols reduce the need to explain/understand symbol rationales. This can make symbols more visually intuitive but significantly increases the number of unique symbols with finer detail the user must visually process and creates visual distractions due to changes on the screen.

Alternative symbols OFF



Alternative symbols ON



Multiple locations of same words/homonyms

In Unity, the same word can appear in multiple places in order to keeps in contextually based locations or semantic categories. For example, “fish” is stored under sports, pets, and food.

There is no duplication of words in LAMP WFL. Each word is stored in only one place. For example, “fish” is found under FAST (sports), regardless of whether it's used as a pet, verb, or food. This supports consistent motor patterns—just like how we say a word the same way every time in speech. The semantic category is typically VERBs.

Double Hit on core symbol (same location)

It's easier to learn motor patterns that are unique.* Some autistic/apraxic individuals have difficulty varying a motor plan once it's learned. For example, if a lot of core words are double

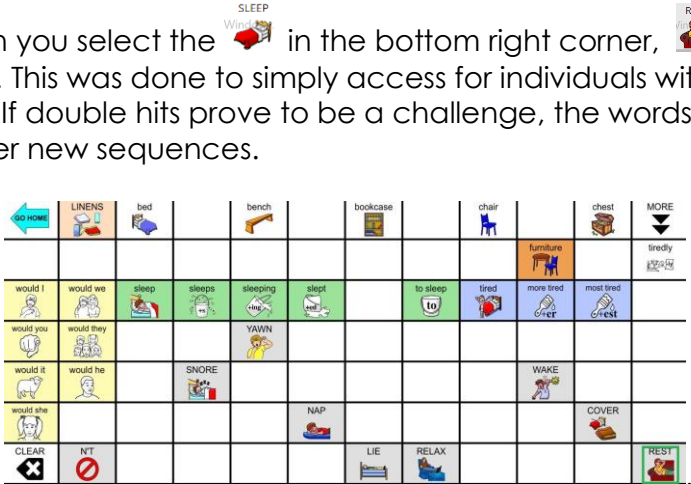
taps, the double tap becomes automatic and difficult to learn other patterns.

NOTE: There are double hits in LAMP WFL-VI as the target population is different and needs easy motoric access as it's the primary means of locating buttons.

*Dukhovny, E. and Gahl, S. (2014). **"Manual motor-plan similarity affects lexical recall on a speech-generating device: implications for AAC users."** *Journal of Communication Disorders*, 48, 52-60.

In Unity, some words are accessed by double-hitting a core symbol.

For example, when you select the  in the bottom right corner,  appears in the same location. This was done to simply access for individuals with complex motor challenges. If double hits prove to be a challenge, the words can be programmed under new sequences.



In LAMP Words for life, there are no double-hits on a core symbol.



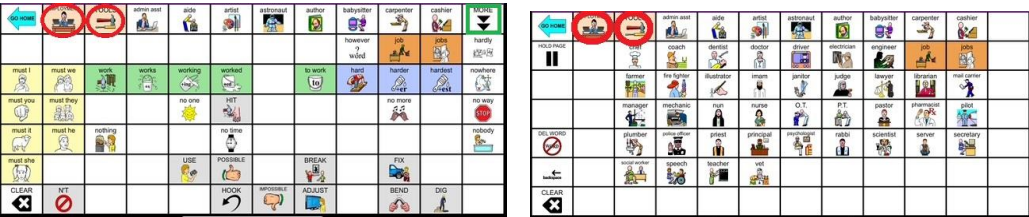
Accessing nouns

- Both language programs retrieve words using (in most cases) no more than 3 button selections for the 84 sequences vocabularies.
- Both language programs provide spaces between choices when on a page of nouns, however, because Unity currently has more pre- programmed nouns, spacing between symbols is not always possible.

Unity AAC App provides access to nouns using the activity row and the option to go to a page with all the related nouns by selecting the .

- Some core symbols have more than one category of related nouns.
- Items that will open to a page are color-coded with a light orange background.
- All pages have the noun category name (e.g. fruit) in the same location as the noun keys on the home screen.

 = JOBS, EMPLOYMENT and TOOLS



LAMP Words for Life provides access to frequently used nouns in the top 2 rows and sometimes other locations to speak the word with only 2 button selections. Less frequently used nouns or larger categories of words require a 3rd button press.

- Items that will open to a page are color-coded with a blue background
- In LAMP Words for Life, the category name is on the top left of the page.

 = JOBS, EMPLOYMENT and TOOLS



Hold Page: This button allows users to stay on a category page after selecting a word instead of automatically returning to the home screen. This can support learning multiple related words in a group. However, its use differs between Unity and LAMP Words for Life due to their design principles.

Important considerations for using this tool:

- Holding a page may support users with limited mobility or those who use alternative access to reduce the number of selections.
- Holding a page may interfere with motor planning and lead to motor rigidity / “stuck” motor patterns or confusion.
 - Not holding a page requires individuals to learn the entire sequenced to get to each word which keeps the motor plan consistent when saying individual words.
 - Saying “Monday, Tuesday, Wednesday” without the screen changing may allow a quicker response during circle time. However, when using those words in conversation, the motor plan will begin at the home screen so it may be best to practice the complete motor plan.

Unity includes this tool as an option on noun pages. Users can say multiple words from the same category before manually selecting **Go Back** to return to core vocabulary.

Hold Page (cont.)

LAMP WFL does **not include** a Hold Page button.

- The system returns to the home screen after each word to maintain consistent motor plans and support automaticity by starting each word from the same location. To request multiple items from the same page, e.g., 2-3 fruits, the full sequence must be executed for each one. This is key to LAMP’s teaching approach.
- While the Hold Page button is not pre-programmed in LAMP WFL, it can be easily added by editing a button and assigning the action “**Cancel Visit**” to keep the page open after selection.

1-Hit Versions

1-hit allows users to speak words by selecting a single symbol. This setup is helpful for some early communicators because it supports quick success and reinforces motor patterns through immediate auditory feedback. However, 1-hit vocabulary is not a required starting point or a step that must be mastered before using a full vocabulary.

- The purpose of providing a 1-hit version:
 - It allows the learner to pair a motor movement with auditory output and natural response immediately.
 - It helps learners to learn the initial association of that symbol.
 - It provides a quick access to frequently used core words for toddlers or beginning AAC users.

Unity provides access to words beyond what you see on the home screen.

- 13 of the core(highlighted) symbols provide access to fringe vocabulary. For example, "go" provides access to favorite places so the individual can quickly say "go home".
- If the label is in CAPITAL letters, the word will not speak and will open choices in the activity row. This occurs with TALK, SOCIAL, FAMILY and COLOR.
- There is also the which provides access to hundreds of fringe vocabulary.
-

ME	MY SENTENCES	GREETINGS	MORNING MEETINGS	yes	KEYBOARD	no	maybe	CATEGORY	DEVICE	PAGES
me	my	can	can	that	and	what	word	again		
I	we	are	is	were	was	on	to	an	the	find
you	they	know	like	work	have	more	fast	stop		
it	he	come	time	do	think	big	get	wash		
she	look	slow	computer	call	good	hear	live	love	help	
CLEAR	don't	change	make	feed	bad	turn	pull	sleep		

In LAMP WFL, the 1-hit vocabulary are only the words that are shown on the home screen (plus mom and dad found under the word "all"). The screen does not change and is essentially a talking manual board for the following reasons:

- Eliminates word access dependencies. If the home screen button talks but goes to another page of options, those words on the other page are not accessible without saying the first word.
- There are strategies to expand vocabulary while keeping motor plans for words consistent and allowing access to individual words for individuals who need most words at a 1-hit vocabulary but access to some nouns.

forward	back	stop	up	down	good	love	no	down	all	off	not
me	my	can	can	that	and	what	word	again			
I	we	are	is	were	was	on	to	an	the	find	
you	they	know	like	work	have	more	fast	stop			
it	he	come	time	do	think	big	get	wash			
she	look	slow	computer	call	good	hear	live	love	help		
CLEAR	don't	change	make	feed	bad	turn	pull	sleep			