

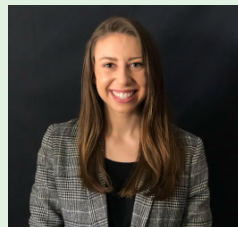
What are Tangible Symbols?

An Introduction and Discussion of Functional Use Across Settings

AbleNet Professional Development

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About Me



I'm Emily Macklin, a Speech-Language Pathologist (SLP) working with school-aged (ages 3-22) Deafblind individuals.

I am passionate about working with individuals who have complex communication profiles. I enjoy being creative with AAC and assistive technology (AT) to provide access to communication.

Disclosures

Financial Disclosures:

I received a speaking fee for presenting from AbleNet, and I am a salaried employee of Perkins School for the Blind.

Non-Financial Disclosures:

I do not have any relevant non-financial relationships to disclose.

Presentation Objectives:

- Learn foundational basics and terminology associated with this type of AAC
- Learn what tangible symbols are and who may benefit from them
- Review considerations when making tangible symbols
- Discuss how to implement tangible symbols to promote functional communication across settings
- Understand how **you** (Yes, You!) can support communication using AAC supports like tangible symbols

Foundational Basics:

What is AAC?

- Augmentative and Alternative Communication, AAC, refers to all ways besides speech that people use to communicate (ASHA).

Examples include:

- High-tech systems (e.g., dedicated systems & iPads with communication applications)
- Sign Language
- Written language
- Switches
- Body Language
- Facial Expressions

Foundational Basics:

What is a symbol?

- Something that stands something else, what it is representing is referred to as the *referent* (e.g., a spoken or printed word, a sign, line drawing, etc.).



STOP



Tangible symbol? Tactile symbol? Tangible-visual symbol?

- All referring to the same thing!

Foundational Basics

What is a Total Communication (TC)?

- Inclusive and flexible approach to language learning and use
- Incorporates all means of communication including: spoken language, sign language (in-air and/or tactile), natural gestures, fingerspelling, body language, printed text, braille, tangible symbols (including whole objects, partial objects, tangible/tactile symbols), picture symbols, AAC, and more
- **The goal is to optimize language development in whatever way is most effective for the individual**

(Hands & Voices, Perkins CVI Now)

Core vs. Fringe Vocabulary

Core Vocabulary = High Frequency Vocabulary

- Relatively small number of words that make up the vast majority of what is communicated day-to-day
- Typically consistent from one person to another, across ages, environments, and activities
- Appropriate use of core vocabulary is essential to effective communication (Yorkston, Dowden, Honsinger, Marriner, and Smith, 1988; Fried-Oken and More, 1992; Baker, Musselwhite, & Kwasniewski, 1999)

Fringe Vocabulary = Extended Vocabulary

- Vocabulary words that are used infrequently, that make up the remaining small portion of what is communicated daily
- Specific to particular people, environments, and activities.

Total Communication requires the use of both core and fringe vocabulary.

(AAC Institute)

AAC systems available today are largely visually-based.

What is a Tangible Symbol?

- A tangible, or tactile, representation of an object, person, activity, event, concept, etc. that is used for expressive and receptive communication



Who may use these?

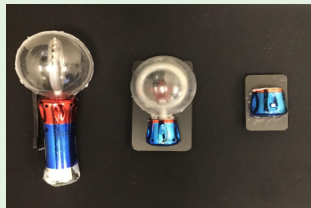
- **No one size fits all**
- Individuals with MDVI (Multiple Disabilities including Visual Impairment) who may have difficulty communicating using verbal speech or other systems such as sign language.
- Individuals with developmental delays or disabilities, intellectual disabilities, sensory and/or visual disabilities (e.g., deafblindness, blindness and low vision, CVI).
- Learners who benefit from a multi-sensory approach to language learning.
- Individuals who have difficulty with the one-to-one correspondence between a widely available symbol (e.g., spoken or signed word), and it's referent.

Why these supports are beneficial:

They do not rely on strong visual acuity or perception, and do not place high demands on the users cognition or memory. Due to factors like:

- **Iconicity** or **Concreteness**, how similar a symbol is to it's referent
- **Permanence**- symbols will not change between uses
- Can be **identified tactilely** (by touch), in isolation, or combination with other senses
- **Manipulable**- the learner can pick them up, explore them, hand them to a communication partner, etc.
- Choices/selections can be indicated through a **simple motor response** including tapping, pointing, directed eye gaze, etc.

Iconicity considerations



- Whole objects
- Partial objects
- Tangible/tactile symbol

Trade-offs: How concrete the representation is vs. size, weight, bulkiness, portability

Why use Tangible Symbols?

- To increase independent communication skills
- To support the transition from pre-symbolic to symbolic communication
- To access the curriculum
- To create calendar systems and activity schedules
- To develop time concepts and sequencing skills

Receptive Language

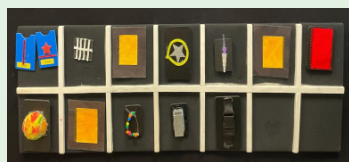
- Use in a student's schedule/calendar system
- Support transitions and anticipation of what is coming
- Increase independence within routines



Whole Object schedule

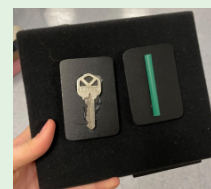


Tangible Symbol schedule



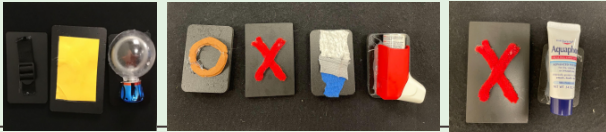
First, Then supports

"First car, Then Starbucks"



Expressive Language

- Choice making
- Controlling the environment
- Indicating more/finished
- Language expansion (symbol combination)
- Asking for help/assistance (including medical needs)
- Commenting



What is the most **salient** part of the referent?



Play-Doh lid



Stacker rings



Connect 4 piece

Be careful with miniatures

- Visual bias



Non-toxic paint + creativity with household/ construction materials can go a long way

Super cute,
but...



STOP

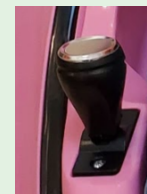


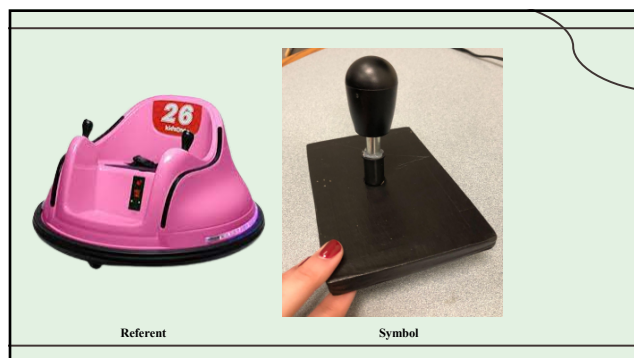
Instead,
consider
cutting off
the handle
and gluing it
to a backing



GO!

Let's brainstorm...

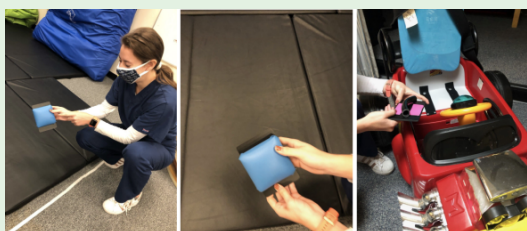




Pair the symbols with the referent repeatedly

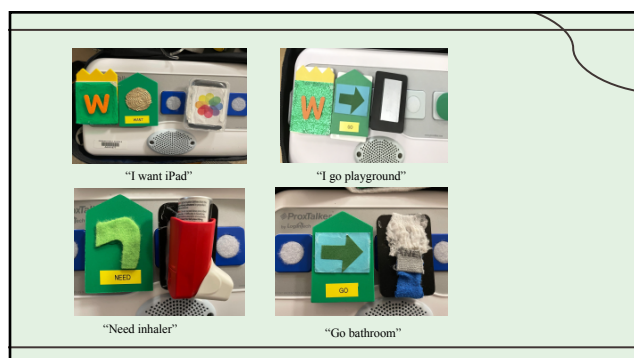
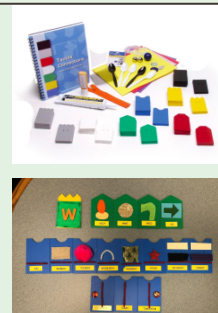
- Guide the individual's hand from the referent to symbol, symbol to referent
- Narrate what is similar about them, discussing why this symbol was made for this
- Pairing use of the symbol to represent the referent OVER and OVER in meaningful and natural contexts will lead to a deep understanding of the symbols

PAIR, PAIR, PAIR (please)



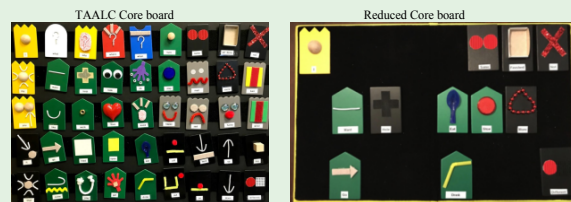
Build Language

- Tactile carrier phrases/ sentence starters
- Model use across settings, as often as possible
- Symbols can be combined via multiple modes



TAALC Core board

- Core vs. fringe vocabulary
- Build literacy skills while expanding communication skills
- Consistent symbol locations



(Abner, *Paths to Literacy*, 2019)

Print/ Braille Exposure

- Work with the Teacher of the Visually Impaired (TVI) to determine if print or braille will be more accessible/supportive as a written modality
 - If applicable, **label symbols**
- If using braille, prompt the individual to guide their finger over the braille while exploring the symbol
- Print awareness sets a foundation for emerging readers

Creating a symbol-rich environment

- If spoken, signed, visual symbols aren't available/ accessible for creating a language/symbol-rich environment, we need to brainstorm how else to do it.
- **Remember... All symbols are abstract until we build meaning with our real-life lived experience**
- Examples within the home...

Bathroom

- If the individual navigates through the environment via trailing along walls, place the symbol at a height that they will encounter upon entering the room



Bedroom/Laundry room



Kitchen

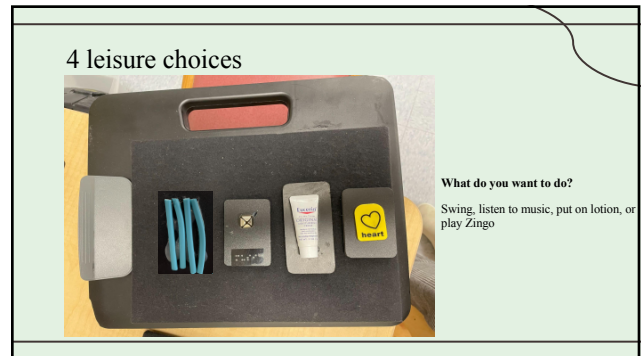


Context-based symbols



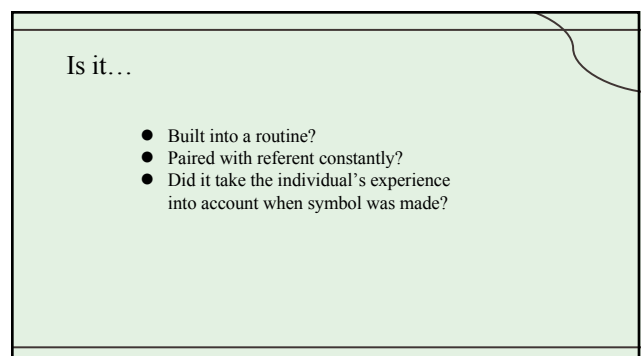
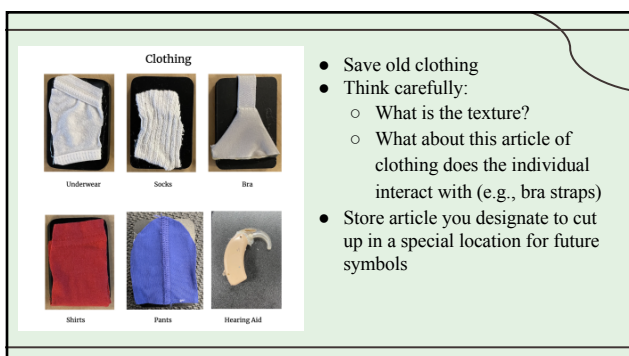
Identical sets of symbols in the location they naturally exist and another set for on the go use.

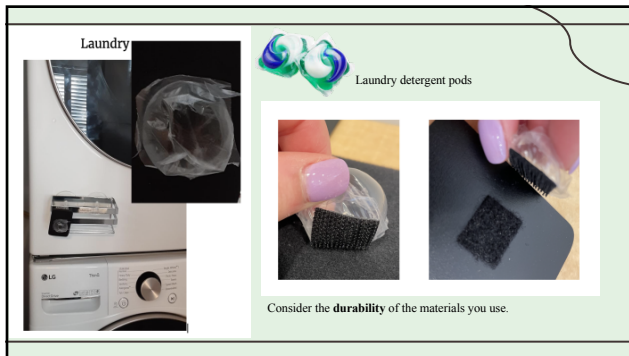




Functional Routines/ADL's

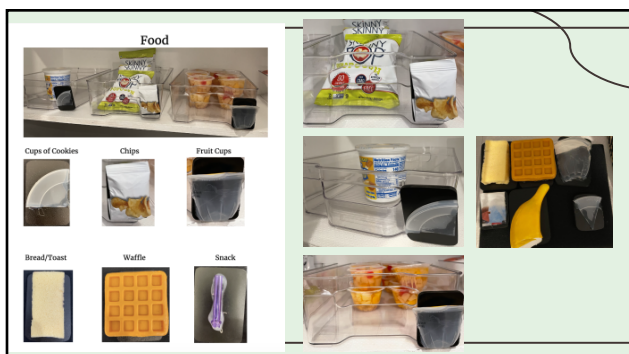
- Dressing, Sorting clothing
- Laundry
- Grocery Shopping/ Mealtime
- Trips into the community



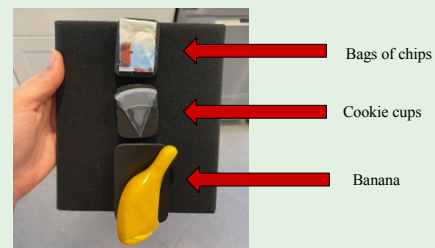


Is it...

- Built into a routine?
- Paired with referent constantly?
- Did it take the individual's experience into account when symbol was made?



Tactile Shopping List



Is it...

- Built into a routine?
- Paired with referent constantly?
- Did it take the individual's experience into account when symbol was made?

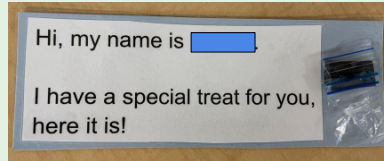
First/Then



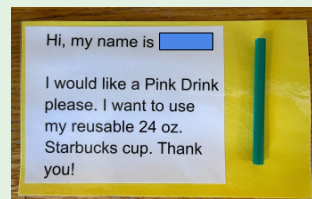
Pairing symbols and referents



Information card with tactile attachment



Starbucks Order with tactile attachment



Community Places



Gym/ Rec Center



Police Station



Starbucks



Library

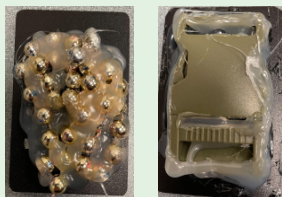
In my toolbox

- Hot Glue Gun (and extra sticks)
- Veltex (soft material Velcro sticks to)
- Velcro
- Velcro Scissors
- Strong adhesive tape
- Symbol backings
- Zip Ties
- Command Strips



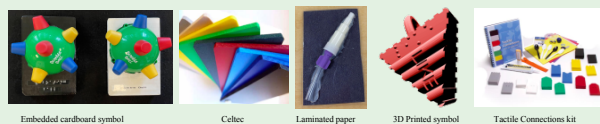
Hot glue is your friend, but be careful

- Too much may distract from the materials being symbolized



Symbol Backings

- APH Tactile Connections kit for various color/top texture backings
- Celtec or "expanded PVC" (Various thicknesses, I typically use 1/4in)
- Black or white tangible symbol cards (embedded symbols)
- 3D printed symbols, check out Project Core
- Laminated construction paper or cardstock



Presentation boards

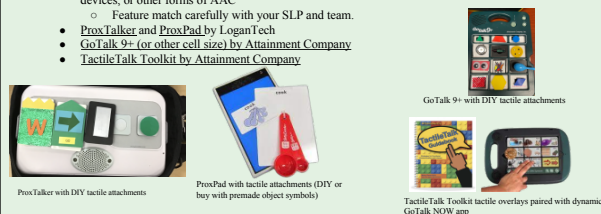
- Storage clipboard (found at office supplies stores) adapted with Veltex
- Slant boards
- Veltex boards (any size) mounted to wall or free standing
- Portable Veltex "book" or bag with strap



Front

Tangible symbols meet mid- and high-tech AAC

- For some individuals, it may be beneficial to consider combining tangible symbols with voice output devices, or other forms of AAC
 - Feature match carefully with your SLP and team.
- ProxTalker and ProxPad by LoganTech
- GoTalk 9+ (or other cell size) by Attainment Company
- TactileTalk Toolkit by Attainment Company



Resources to check out

Website with a wealth of resources and information: <https://www.pathstoliteracy.org/>

Specific blogs and articles related to this topic:

- [AAC Systems for Students with CVI & Multiple Disabilities](#)
- [The Power of Communicating with Tactile Symbols](#)
- [Using Tangible Symbols at Home](#)
- [Using Tactile Symbols to Support Communication](#)

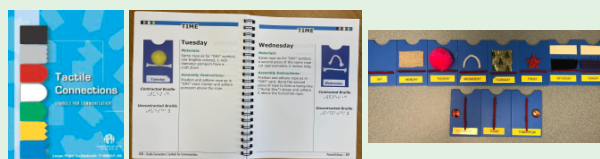


**PATHS TO
LITERACY**

for students who are blind or visually impaired

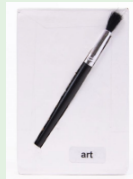
Resources to check out

- [APH Tactile Connections Kit: Symbols For Communication](#)
- Includes the various colorful backings and this book contains ideas and guides for symbol making and how to distinguish parts of speech



Resources to check out

- American Printing House STACS (Standardized Tactile Augmentative Communication Symbols)



Resources to check out

- Project Core 3D Universal Core Vocabulary Symbols

Word Class	Shape	Edge Texture	Color
adverb	circle	bumps (reverse golf ball dimples)	yellow
adjective	heart	smooth	blue
pronoun	hexagon	cross hatch	white
preposition	square	horizontal grooves	green
verb	triangle	vertical ridges like a quarter	red
noun	trapezoid	horizontal wavy grooves	orange
interjection	pentagon	single string of bumps (string of pearls)	black



Resources to check out

- Texas School for the Blind and Visually Impaired Tactile Symbol Directory

Meaning Category

- Time
- Events
- Places
- People
- Emotions
- Objects
- Food
- Actions
- Miscellaneous/Function Words
- Gym Symbols

Examples:

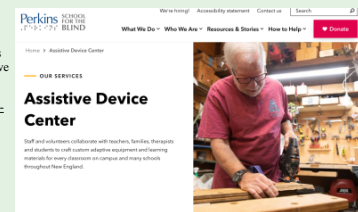


Resources to check out

Assistive Device Center (ADC) at Perkins School for the Blind creates custom adaptive equipment

Website: <https://www.perkins.org/assistive-device-center/>

Contact: ADC@perkins.org



Team Approach

If you think tangible symbols may be a good fit for someone you know.. **consult with the individual and their team** (family/caregivers, Speech-Language Pathologist (SLP), teacher, occupational therapist (OT), Teacher of the Visually Impaired (TVI), Assistive Technology (AT) specialists, Early Intervention (EI) team, and more)!

Highlights:

- May be an appropriate fit for individuals with a variety of profiles including those with MDVI
- Expose the learner to core AND fringe vocabulary
- Keep it meaningful to the learner's experience! Think of the most salient part of their experience
- PAIR PAIR PAIR symbols with what they represent. Discuss similarities and differences
- Embed new language concepts in routines as often as possible, it allows for built-in consistent practice and exposure
- Keep it simple and use consistent language
- Add braille or print labels for print awareness/ text exposure (if appropriate)
- Get the team on board- Lots of power in demonstrating
- You can do this!**

(Paths to Literacy)

Thank you for coming!



If you have questions or want to connect, please contact me at:
esmacklin@gmail.com

Citations

- [Introduction to AAC \(ASHA\)](#)
- [Tangible Symbol Systems 2nd Edition \(Rowland & Schweigert, 2000\)](#)
- [Total Communication \(Hands & Voices\)](#)
- [Total Communication approach \(Perkins CVI Now\)](#)
- [AAC Systems for Students with CVI & Multiple Disabilities \(Gonzalez, 2015 - Paths to Literacy\)](#)
- [The Power of Communicating with Tactile Symbols \(Abner, 2019 - Paths to Literacy\)](#)
- [Using Tangible Symbols at Home \(Liamsom, 2017 - Paths to Literacy\)](#)
- [Core Vocabulary and the AAC Performance Report \(AAC Institute\)](#)
- [Tangible Symbols \(Torrey - Perkins eLearning\)](#)
- [Tangible Symbols Systems \(Wikipedia\)](#)
- [Tactile Symbols Directory \(Texas School for the Blind and Visually Impaired\)](#)
- [A Brief History of Tactile Writing Systems for Readers With Blindness and Visual Impairments \(Cooper, 2017 - Texas School for the Blind and Visually Impaired\)](#)
- [Using Tactile Symbols to Support Communication \(Powell, 2019 - Paths to Literacy\)](#)
- [Assistive Device Center at Perkins School for the Blind \(ADC\)](#)
- [Project Core, Universal Core Vocabulary](#)
- [American Printing House SLACS \(Standardized Tactile Augmentative Communication Symbols\)](#)
- [APH Tactile Connections Kit: Symbols For Communication](#)
- [ProxTalker and ProxPad \(LoganTech\)](#)
- [GoTalk 9+ and GoTalkNOW \(Attainment Company\)](#)
- [TactileTalk Toolkit by Attainment Company](#)