# LAMP

Language Acquisition through Motor Planning

AAC Strategies for Promoting the Development of
Communication for Individuals with Autism Spectrum Disorder

The Center for AAC&Autism

# Thank you:

Children

Parents

Teachers/Therapists

PRC

# Disclosure Statement

I (Melissa Pouncey) have a financial and nonfinancial interest in an organization whose services are reviewed in the presentation. I receive compensation from the Prentke Romich Company for whom I am employed by as a LAMP trainer.

# LAMP Registration

https://aacandautism.com/SHAA-2022

## By the end of this session you will be able to:

1. Describe the five key elements of LAMP
2. Describe how core vocabulary can be taught through the use of motor planning
3. Identify methods of motivating clients with ASD to use AAC through the use of LAMP strategies
4. Identify ways to evaluate and track progress for clients using LAMP

# Who Are We?

# Our Mission:

To improve public awareness of the unique qualities of the  power of AAC to change the lives of non-verbal individuals with autism and other developmental disabilities by:

- Providing specialized clinical training to health care professionals, teachers, and parents
- Supporting clinical research
- Supporting clients and families with education, resources, and information

# What is LAMP?

- It is not an item used to illuminate dark places
- It is not an app
- It is not a device

# LAMP Words for Life®

- **5 Vocabulary Options:**
  - LAMP WFL 84 1-hit - 82 words
  - LAMP WFL 84 transition – 205 words
  - LAMP WFL 84 Full – over 4000 words
  - Available on Accent or iPad
- English/Spanish version
- Visually Impaired version
- Keyguard available

http://www.asha.org/PRPSpecificTopic.aspx?folderid=8589942773&section=Key_Issues

Augmentative and Alterna

SHOP | M

American Speech-Language-Hearing Association

CAREERS | CERTIFICATION | PUBLICATIONS | EVENTS | ADVOCACY | CONTI

Home / Practice Portal / Profe

# Augmentative and Alternative Communication

## Overview

## Key Issues

- AAC Populations
- AAC Systems
- Communicative Competence
- AAC Myths and Realities
- Incidence and Prevalence
- Roles and Responsibilities
- Assessment
- Treatment
- State/Federal Laws and Regulations

http://www.asha.org/PRPSpecificTopic.aspx?folderid=8589942773&section=Key_Issues#Treatment

Augmentative and Alternative...

& Durand, 1985; Mirenda, 1997).

### Language Acquisition Through Motor Planning (LAMP)

**Language Acquisition Through Motor Planning** (LAMP) is a therapeutic approach based on neurological and motor learning principles that uses a high-tech AAC system to provide the child with opportunities to initiate activity, engage in communication around activities of their choice, and access consistent motor plans to locate vocabulary (Potts & Satterfield, 2013).

The LAMP approach teaches the individual to independently select words and build sentences on a voice output AAC device using consistent motor plans to access vocabulary. LAMP's emphasis on motor planning may reduce the cognitive demands of choosing from a symbol set and may result in more automatic and faster communication (Autism Spectrum Australia [Aspect], 2013).

It has been estimated that between 33-50% of individuals with autism will not develop functional speech.

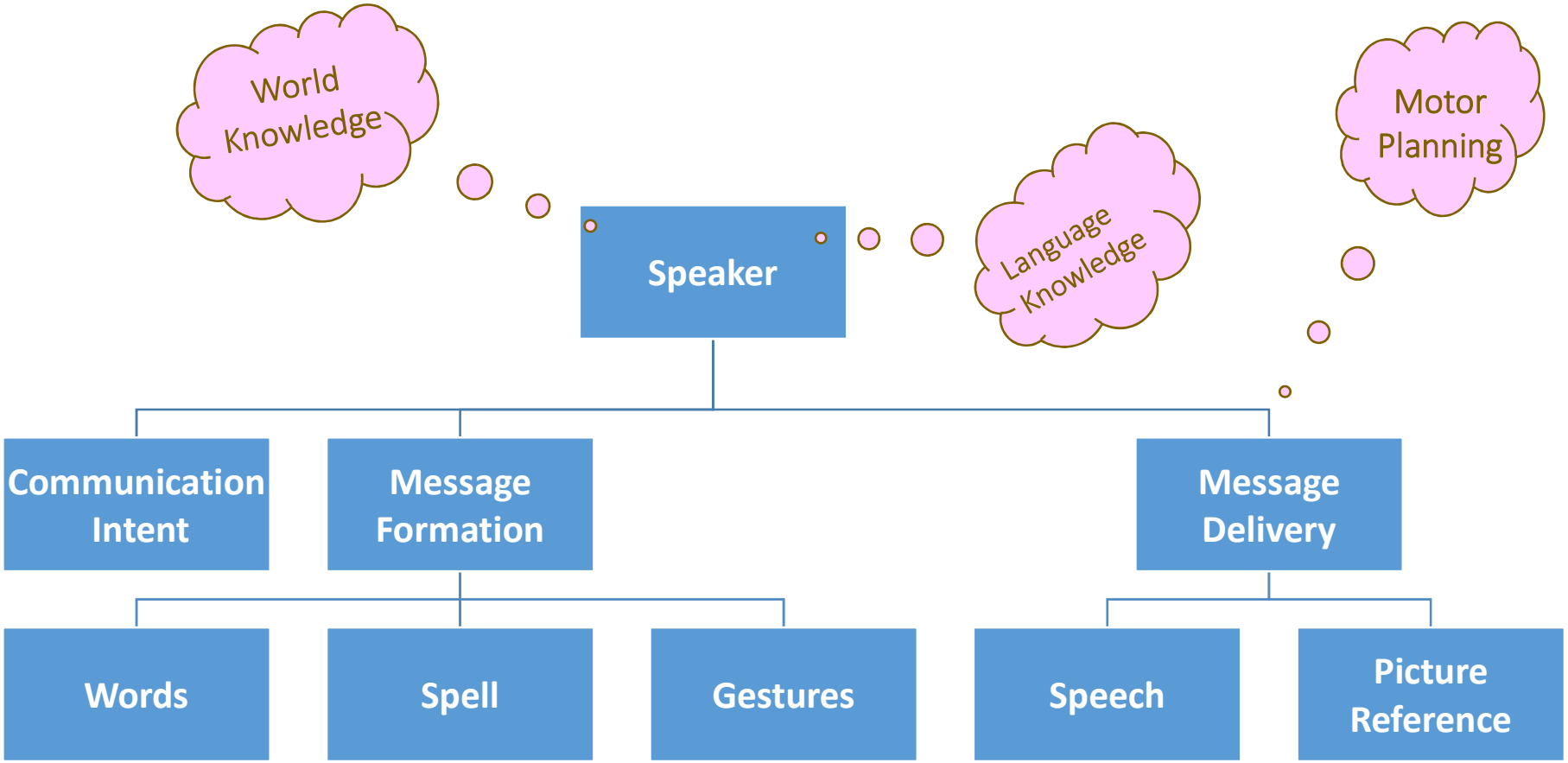
Wodka, Mathy, & Kalb 2013

Approximately 25% to 30% of children with ASD remain minimally verbal, even after years of intervention (Kasari, 2014).

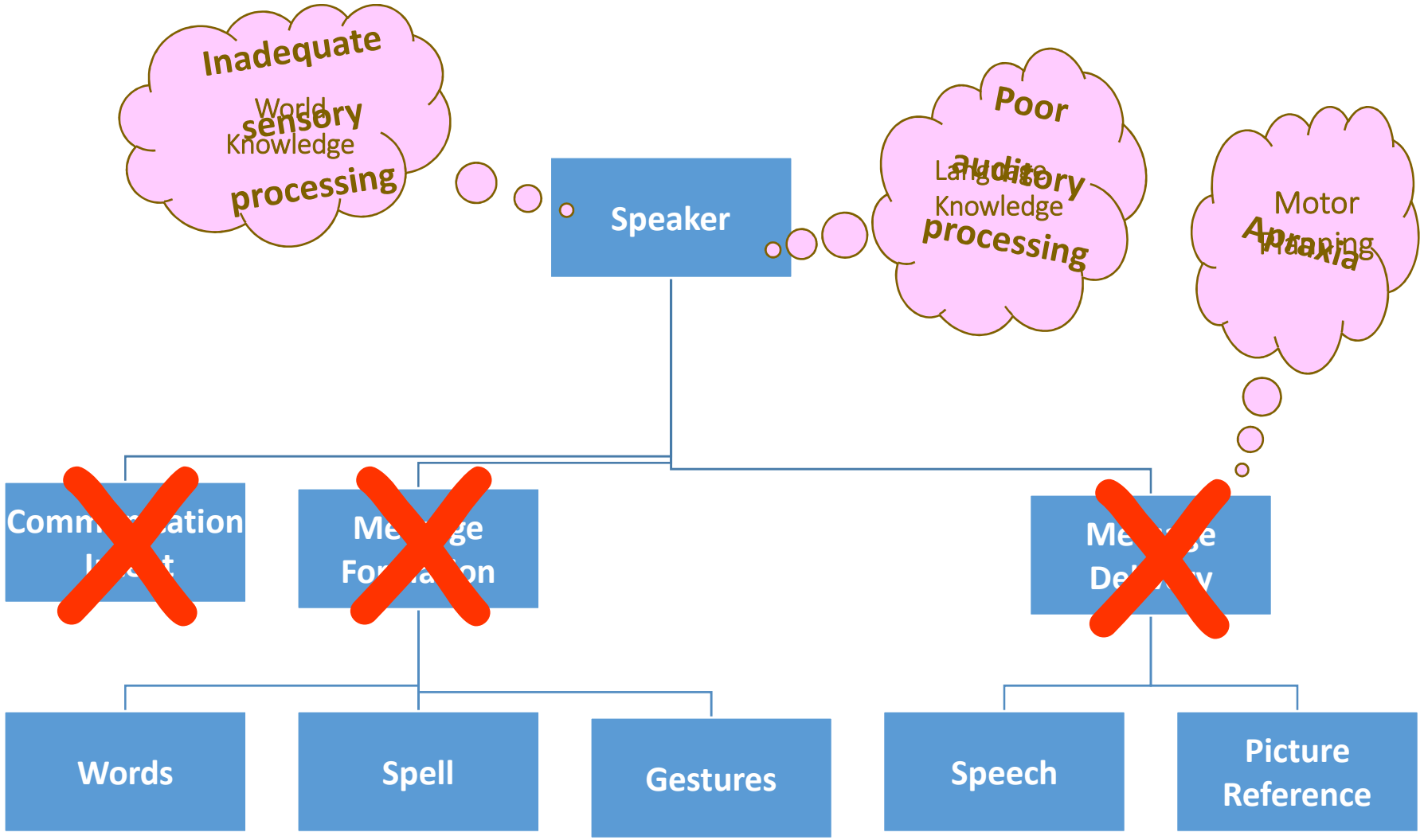
Failure to develop spoken language by age 5 years increases the likelihood of a poor long-term prognosis for social and adaptative functioning. (Kasari, 2014)

20-30 % of children with ASD won't develop spoken language by school age. (Rogers, 2006)

# Normal Communication Process



# Presumed causes in ASD



# Weaknesses Impacting Language Development

- Inadequate sensory processing
  - Impacts ability to attend to conversations and tasks
- Poor auditory processing
  - Difficulty with segmentation of speech
- Apraxia-verbal and/or motor
  - Impacts speech and access

# Neuroplasticity

LAMP strives to improve language and communication by imitating the neurological process associated with typical speech development by

- ✓ Pairing a unique motor movement with
- ✓ Hearing the word produced by that movement
- ✓ Experiencing another's reaction to the word

# Think about natural language development

- Teach single words (Turn, go, stop, eat, drink, my, more)
- Combine two single words, combine them in different ways (My turn, my toy, I go, you go, go home, more drink, more eat, my drink, drink water, drink milk)
- Combine three words, morphemes, concepts
- AAC is just language therapy on a device. Let the hand be the articulator instead of the mouth.

# We have to MODEL, MODEL, MODEL...LANGUAGE/AAC

| Child Age | Average Language Input | Expressive vocabulary |
|---|---|---|
| 12 months | 2920 hours | 3 words |
| 18 months | 4380 hours | 68 words |
| 24 months | 5840 hours | 200+ words |
| 30 months | 7300 hours | 540+ words |

# LAMP Language Consideration:

"Communication is based on the use of the individual words of our language. True communication is spontaneous and novel. Therefore, communication systems cannot be based significantly on pre-stored sentences. Communication requires access to a vocabulary of individual words suitable to our needs that are multiple and subject to change. These words must be selected to form the sentences that we wish to say."

ASHA's AAC Glossary

American Speech-Language-Hearing Association

The Center for AAC&Autism

# Prerequisites?

## Does my child need to know something before they start using the device

THERE ARE NO PREREQUISITES FOR LEARNING TO USE AN AAC DEVICE OTHER THAN THE ABILITY TO PRODUCE A PURPOSEFUL MOVEMENT.

The myth that a child needs to have cognitive prerequisites or move through a hierarchy of steps prior to using high-tech systems has been discredited repeatedly.

(Adamson et al, 1992, Stuart et al, 2008, Beukelman, David R. and Mirenda, Pat, 2005, Romski, MaryAnn and Sevcik, Rose, 2005)

# High Expectations!

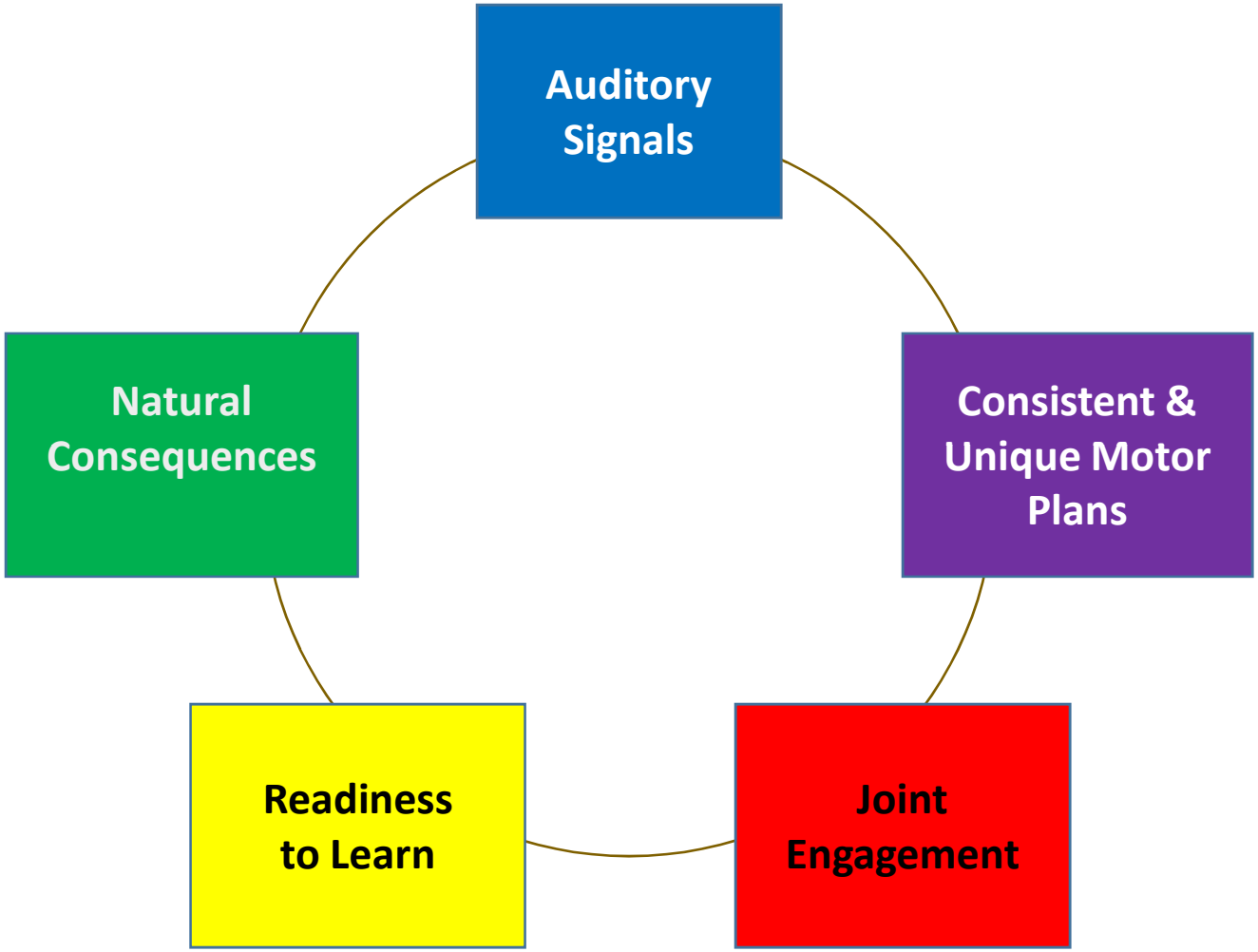
**Where should I start?**

**1-Hit? Transitional? Full?**

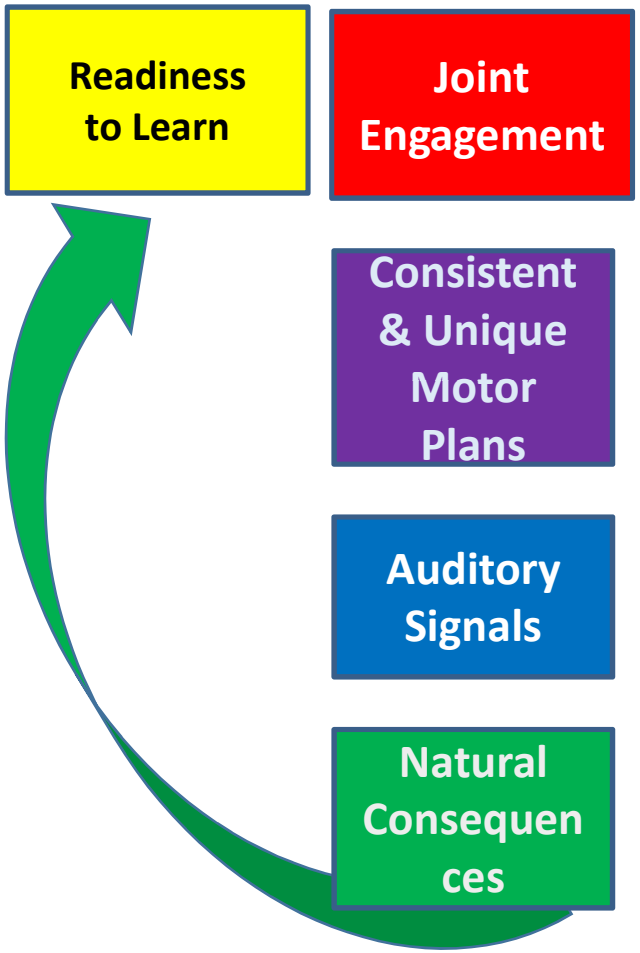
**Start with the end in mind**


Make the *least* dangerous assumptions, presume competence, do not underestimate potential!

# Components of LAMP



# What did we see?



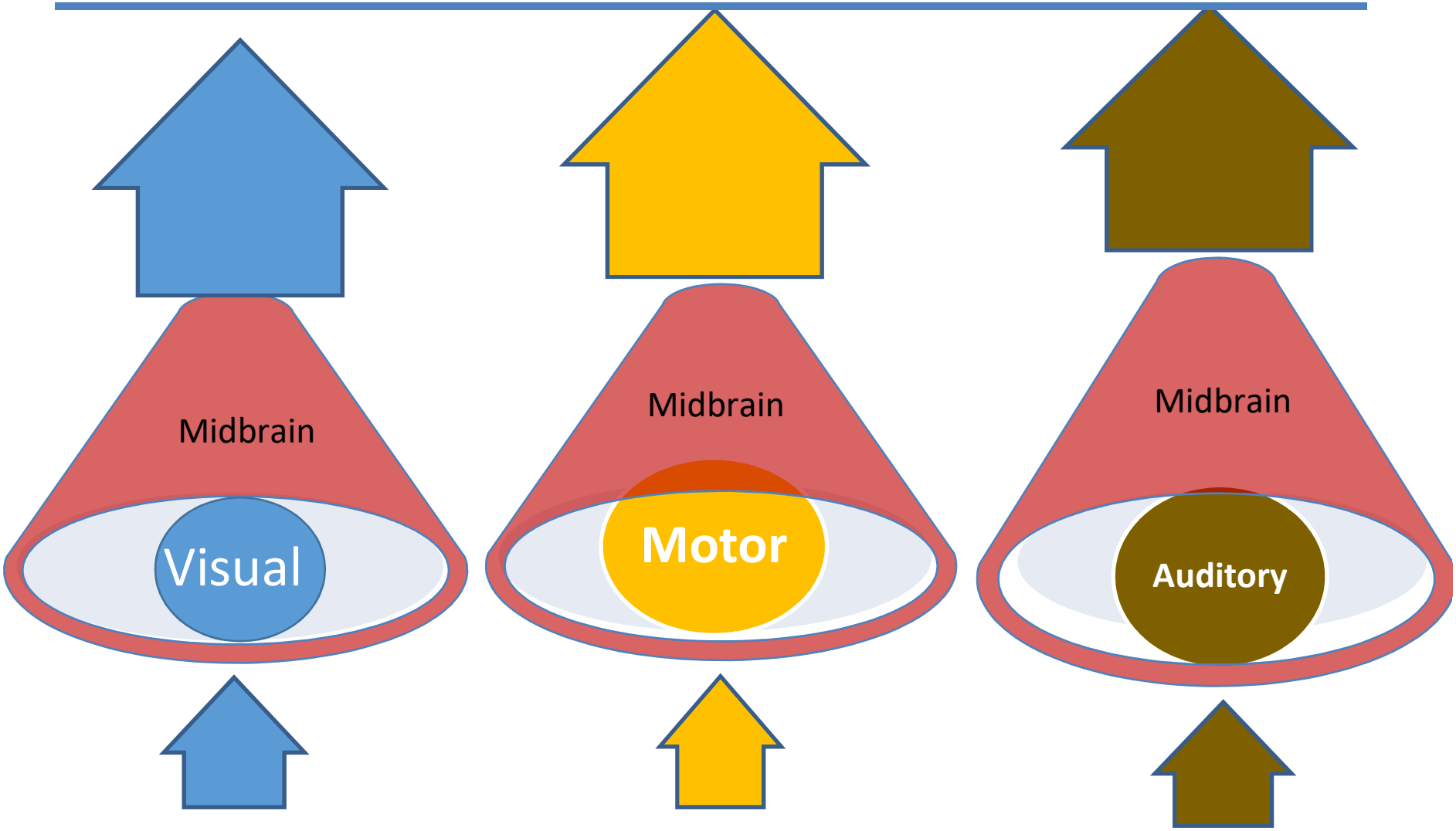

**vocab selection/fear/??** was impacting readiness to learn

**Single core word** not a phrase. "GO" **motor plan stayed the same**, did not change

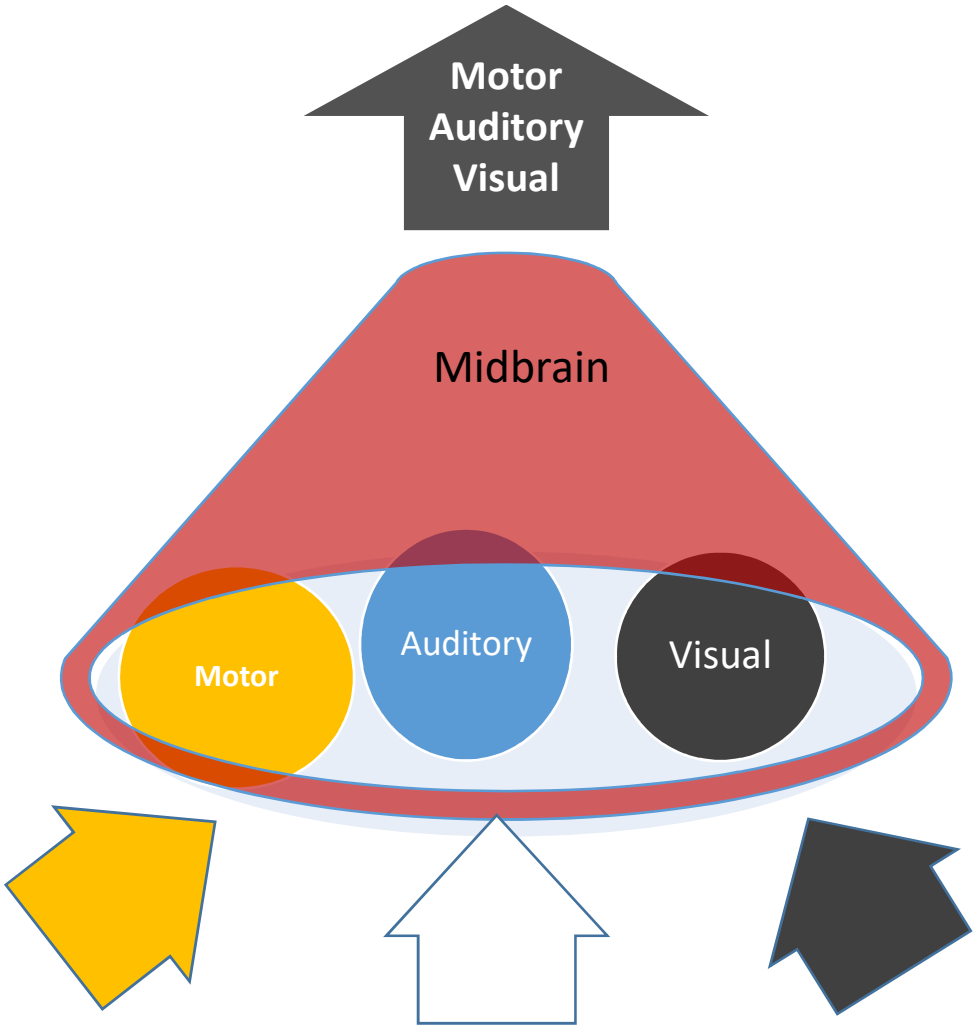
She **hears the auditory signal**

**Visual/natural consequence. JOY** & joint engagement (neurotransmitter released = learning takes place

# Divergent Neurons (Halloran, 2011)



# Multi-sensory Convergence




- Neurons that fire together wire together
- Multiple sensory inputs emerge as one experience
- Proximity in time and space enhances behavioral response

# Mirror Neurons

- Specialty neurons that fire both when we perform a motor movement/action or simply observe or hear it being performed
- Reflects an integration of motor-auditory-visual information processing related to aspects of language learning including action, understanding and recognition.
- Have been linked to many behaviors from empathy to learning

# McGurk Effect and Autism

Children with autism……showed a lower rate of the McGurk effect compared with the Asperger, Down and typical samples. These results suggest that children with autism may have unique intermodal speech perception difficulties linked to their representations of speech sounds.

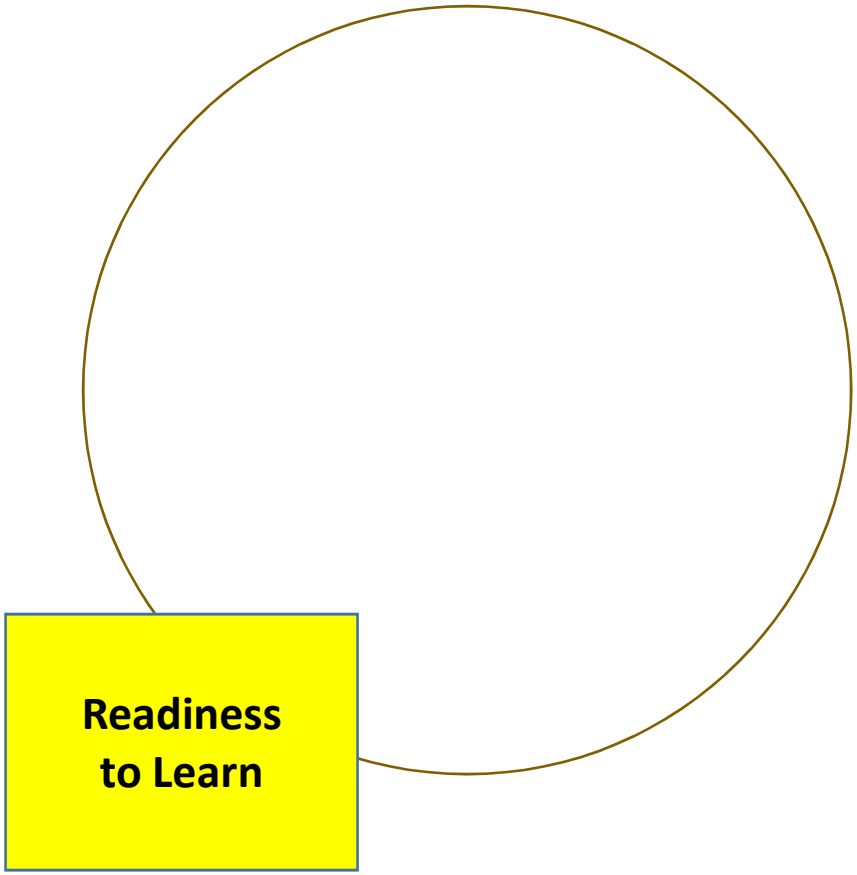
Bebko, J.M., Schroeder, J.H., Weiss, J. A. The McGurk Effect in Children With Autism and Asperger Syndrome. Autism Research. Oct 17 2013

# Lucy

What did we see?

1. **Readiness to Learn**/arousal level
2. **Joint Engagement-respect** all forms of communication
3. **Consistent/Unique Motor Plan** for "go"
4. **Auditory Signal**
5. **Natural Consequence-**word generalized to different activities

# Components of LAMP



## Weakness: Sensory Processing

Sensory differences make it difficult for the individual to attend to relevant stimuli and process those stimuli to form an adaptive response and can have a significant impact on language and communication development. (Tomcheck, Scott D. and Dunn, Winnie, 2007)

## LAMP Goal: Sensory Processing

LAMP addresses the individual's sensory needs throughout language learning opportunities so that the learner can attend and successfully participate in the communication task.

# It's all about the words…

"Being able to say what you want to say, when you want to say it, is what gets them ready to learn"

-John Halloran

# Readiness to Learn

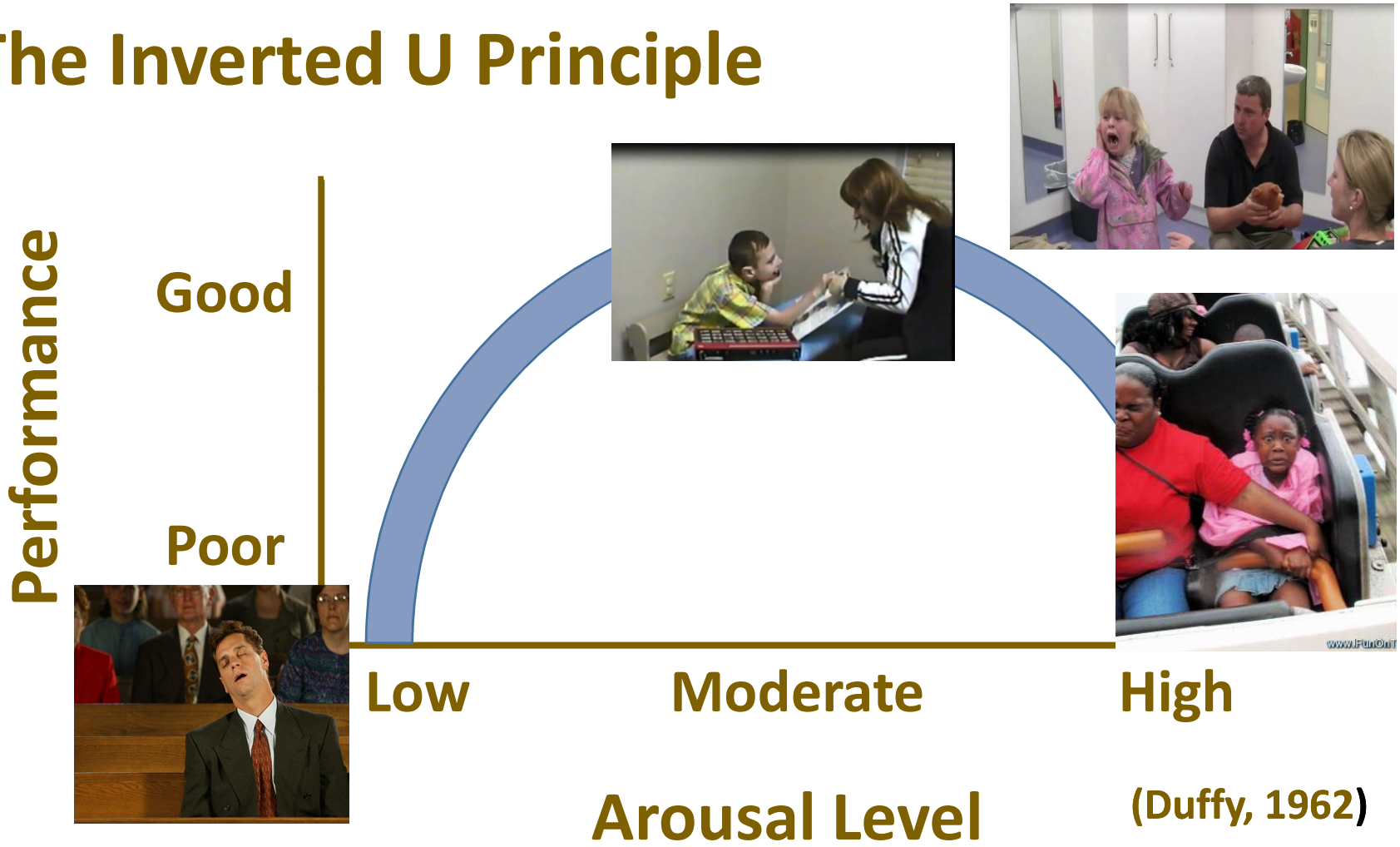
Is the individual at a state to receive optimal benefit from the learning experience?

Influencing Factors:

- Arousal Level-conducive for participation and learning from activity
- Emotion- many brain systems being activated simultaneously so information is processed more effectively.
- Motivation- difficult to direct and sustain behavior if the goal is not valued by the individual or they are not motivated to obtain the goal.
- Task- We must present the "just right challenge." (Ayres, 1983)
- Components of task or environment modified so they can attend

# Arousal/Modulation

## The Inverted U Principle




(Duffy, 1962)

# THERAPEUTIC APPLICATIONS

- Use strategies to calm or alert

  **Calming sensory input**
  1. Slow repetitive movements (swinging, rocking)
  2. “Heavy work”/ resistive activities (pushing, pulling)
  3. Deep pressure

  **Alerting sensory input**
  1. Quick, unexpected movements (bouncing, spinning)
  2. Loud noises, music
  3. Oral motor activities (eating something sour/crunchy)

- Be aware of other factors (e.g., pain, dirty diaper, scratchy shirt, etc..)

- Make task motivating/interesting and not too difficult or too boring/easy and end on a positive note and don’t force participation

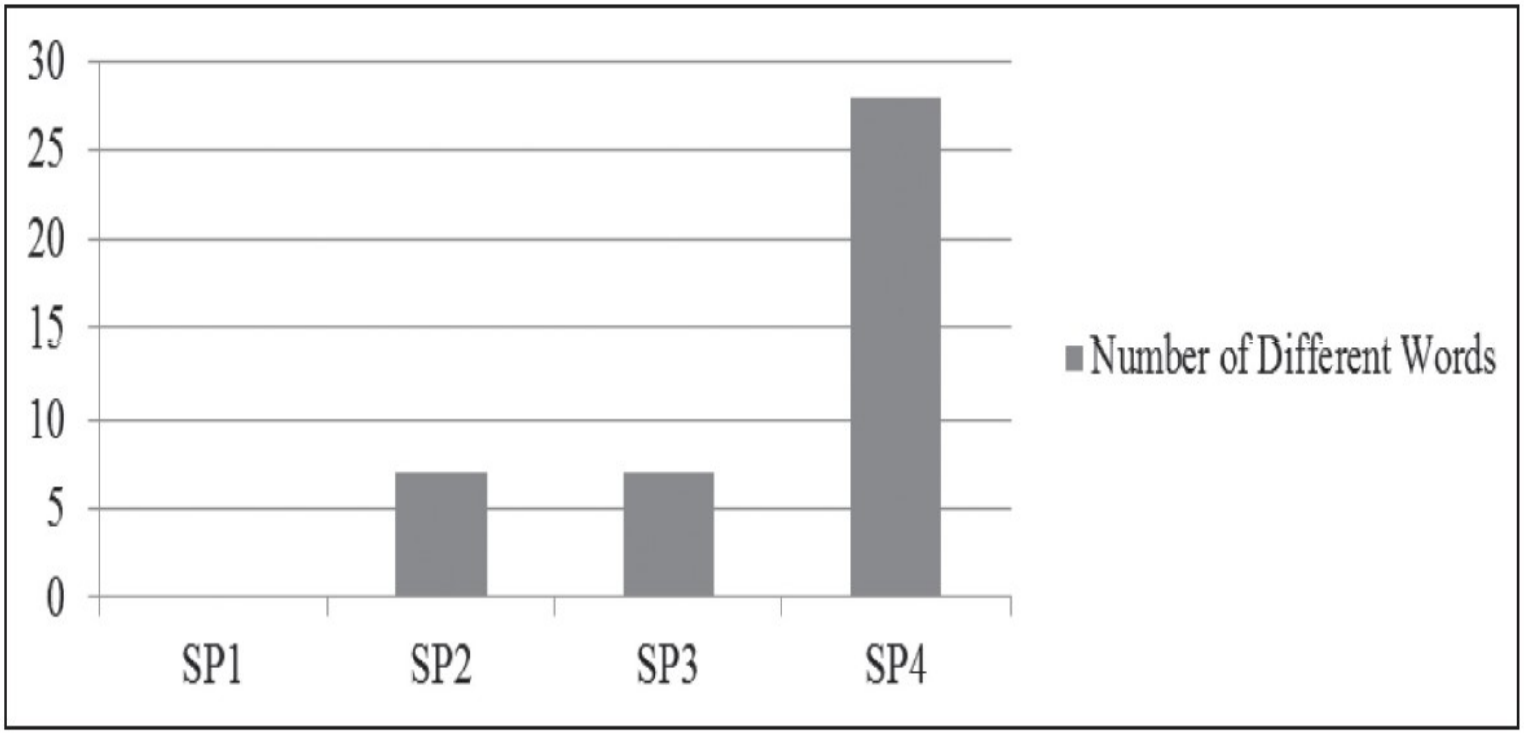
# Tyson

## The Impact of Interrupted Use of Speech Generating Device on the Communication Acts of a Child with Autism Spectrum Disorder: A Case Study

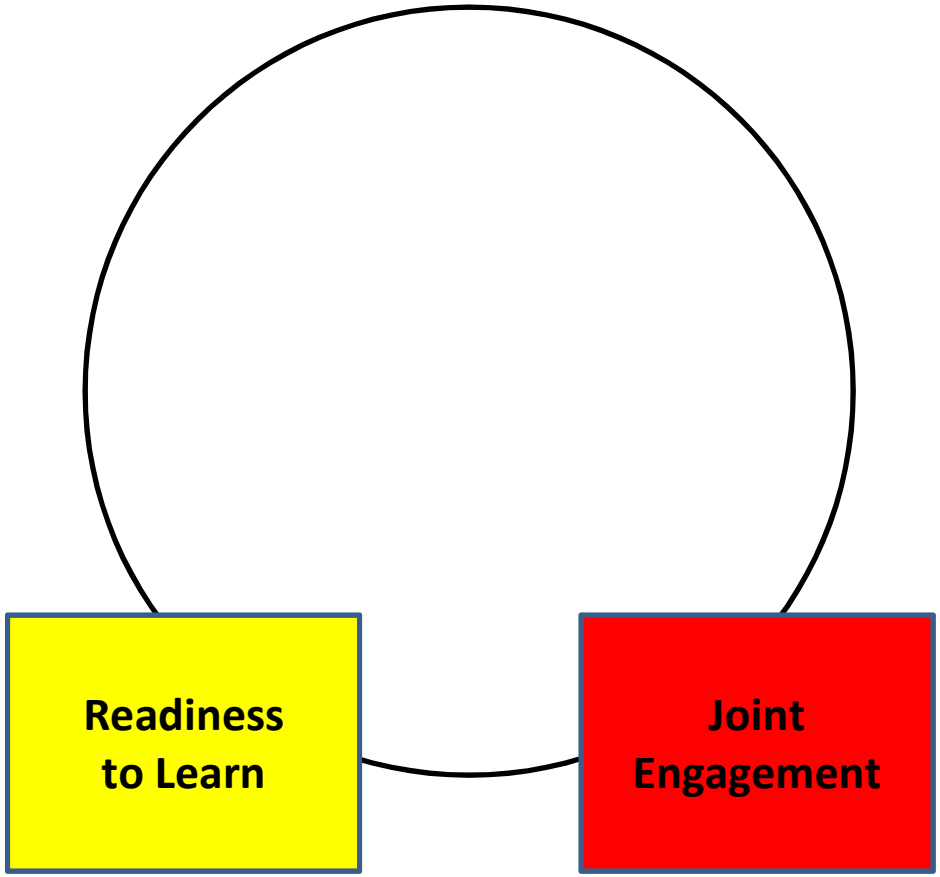
The results from this study indicated the training and ongoing use of a speech generating device positively impacted the child's ability to expressively communicate. Specifically, the results revealed that the child's communication acts (CAs) per obligatory context (OC) per minute increased for both sampling periods during which the speech generating device was utilized.

Education Vol 135. No3

**Fig. 4 Number of different words naturally verbalized by the child**



# Components of LAMP



# Joint Engagement

Participating with the same object or event with another

- Core deficit in autism
- Important for language development

## LAMP Goal: Joint Engagement

LAMP uses a child directed/therapist guided approach to develop interactions with the child and improve that child's capacity for joint attention and engagement

## Joint Engagement

Siller & Sigman (2002)

- Strongest predictor of a gain in joint engagement was the amount of time the caregiver synchronized their verbalizations to the activity in which the child was engaged rather than directing the child.
- Also found that caregivers who more frequently synchronized their interactions with the interests of the child during play had children who developed more advanced communications skills over a period of 1, 10, and 16 years.

## Joint Engagement

Kasari et al. (2014)

- Minimally verbal school-aged children can make significant and rapid gains in spoken spontaneous language with a novel, **blended intervention that focuses on joint engagement and play skills and incorporates an SGD**.

**Journal of the American Academy of Child & Adolescent Psychiatry**
Volume 53, Issue 6 , June 2014

Dr. Karyn Purvis of Texas Christian University Child Development Center said, “Scientists have recently determined that it takes approximately 400 repetitions to create a new synapse in the brain – unless it is done with play, in which case, it takes between 10 and 20 repetitions!”

So, if you really want to effectively and efficiently teach your children (or anyone for that matter), use PLAY!

## Joint Engagement

Natural Communication is:

- Goal directed
- For power and pleasure
- Intrinsically rewarding to start out
- Behavior=communication

Level of language skills and self-regulation have to be better established before something becomes externally rewarding

## Joint Engagement

Learner-Directed:

- Follow the child's lead.
- Join with the child.
- Explore what motivates the child, follow the child's lead. Build language around their passions.
- It is acceptable to gently guide the activity to build complexity, change routines, and introduce new concepts as long as the learner stays engaged.

# Joint Engagement

**Intervention Strategies:**

- Surprising and Novel-novel situations enhance learning and neural plasticity.

Purposeful and Intentional

- Many children with ASD lack the motor planning and/or ability to initiate purposeful behaviors

Use Movement

- Movement helps maintain a shared focus and also allows language to be used more easily. Provide child with full compliment of appropriate sensory input.

Carefully Use Barriers

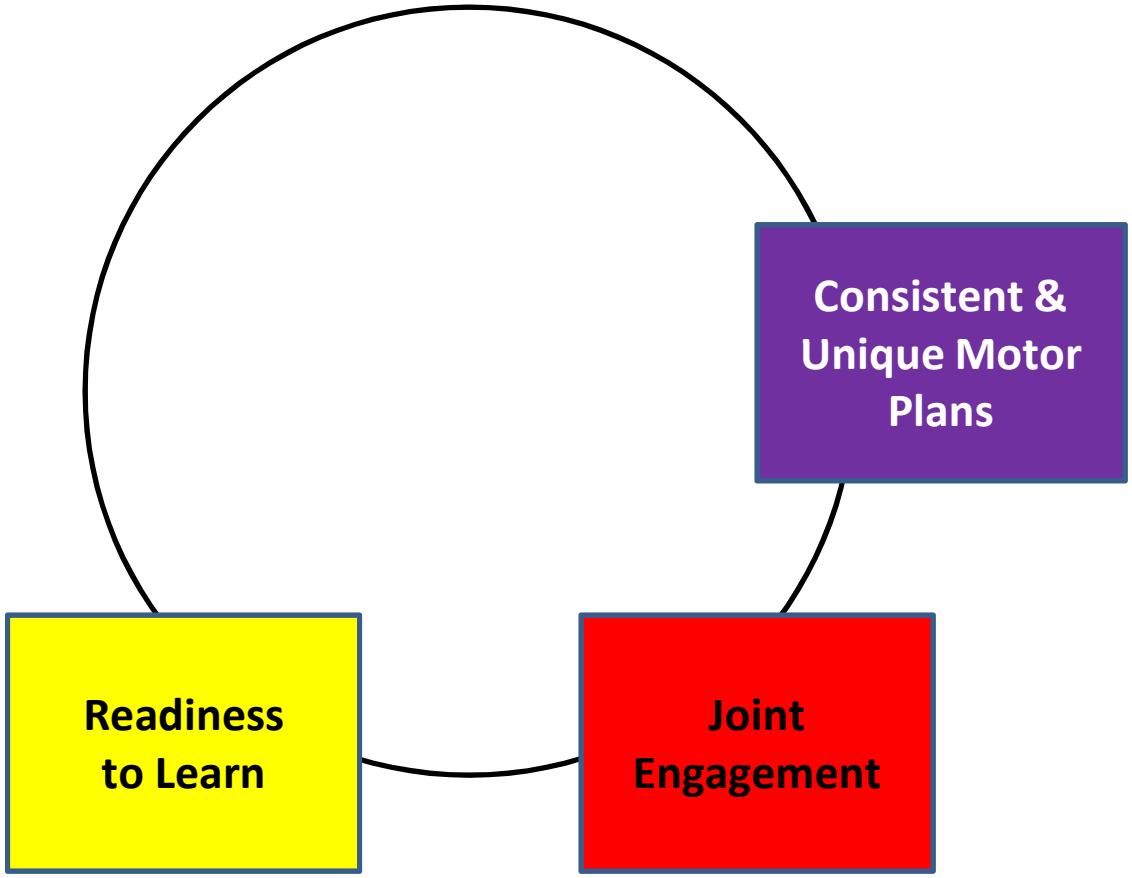
- Can be an effective way to encourage communication to solve a problem

## Joint Engagement

Device Considerations

- A large vocabulary set needs to be available at all times so that words that fit the child's chosen activity can be used and introduced.
- The social partner needs quick access to vocabulary so that it can be taught as the opportunity arises.

# Components of LAMP

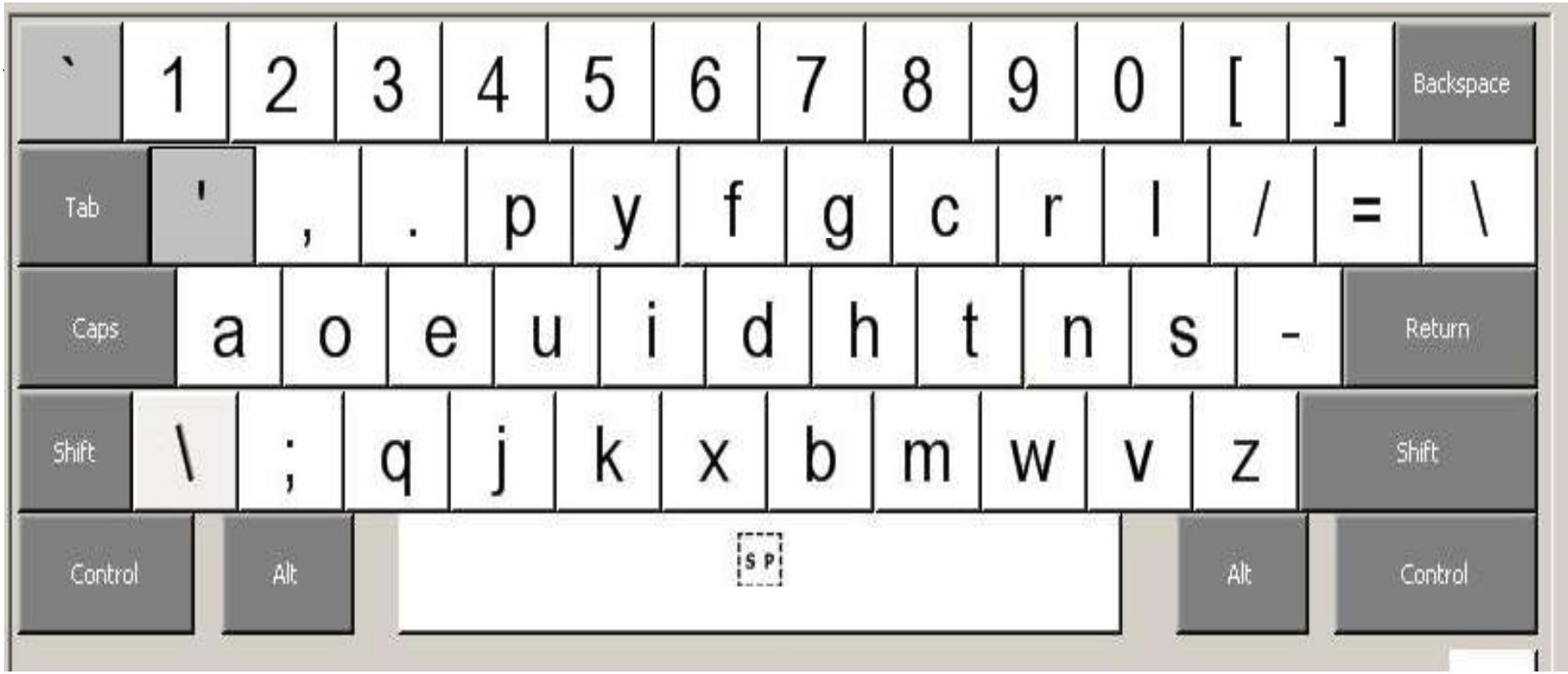


**"In the practiced automatic *movements* of daily life attention is directed to the sense impression and not to the movement. So, in piano playing, the beginner may attend to his fingers but the practiced player attends only to the notes or to the melody. In speaking, writing and reading aloud, and in games and manual work, attention is always directed to the goal, never to the movement. *In fact, as soon as attention is directed to the movement, this becomes less automatic and less dependable."***

**Cattell, J.M**

**1893**

# Consistent & Unique Motor Patterns



# Weakness: Apraxia

A growing number of studies have indicated motor impairments to be prevalent in children with autism…

Ming, Brimacombe and Wagner (2007) reviewed studies of 154 children with ASD. 41% of children ages 2 – 6 and 27% of children ages 7 – 18 showed clear evidence of oral motor and/or hand muscle dyspraxia

Provost, Lopez & Heimerl (2007) - 84% of children with autism studied showed significant delays in motor skills; remaining 16% showed mild delays

# LAMP Goal

- Pressing a button is easier task to motor plan than articulating a word.
- Utilizing consistent motor patterns to access words leads to automaticity decreasing the need to cognitively motor plan each time they speak.

Dukhovny, E. & 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.

- Study researched how motor planning affects recall of icon location on a SGD

- *"Constant explicit visual searching for target SGD locations* ***is cognitively very demanding.*** *In other production modalities, such as writing and typing,* ***the cognitive load appears to be significantly reduced when the production process is automated*** *(Grabowski, 2010). Anecdotal evidence suggests that, just like typists, SGD-dependent communicators gain automaticity with training. Long-term users of SGDs report that they access their devices* ***in a process akin to "blind typing," with limited or no visuo-spatial se****arch."*

Dukhovny, E. & 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.

- "*provides initial* ***support for the use of motor sequences in SGD-based language production."***

- *"If SGD production quickly becomes automatic, as the current study suggests, one implication is that with continued SGD use, location of symbols on a grid becomes more relevant to fluent SGD production that the internal visual characteristics of the symbols.* ***Therefore, in planning SGD design and intervention, location of symbols on the AAC device, and the resulting motor plans for accessing symbols, must be taken into account*** *along with visual considerations."*

- *"Evidence of automaticity in SGD-based production* ***would speak in favor of introducing devices with adult-like language capacity earlier in a user's life, to allow the user to maintain automaticity of production."***

## To become fluent using a SGD – you need automaticity

Possible when:

- Sensory input and the motor plan to say a word remain constant, movement is predictable, motor plan to say a particular word is unique from the motor plan to say all other words

Not possible when:

- Significant navigation is required, continuous visual refocus and/or re-orientation

# Stages of Motor Learning

(Fitts and Posner, 1967)

Cognitive stage :

Learner has to attend to the process of learning a motor action

Associative stage:

He works on refining his skill.

Autonomous stage:

The learner does not have to concentrate on the movement and can attend to other aspects of the activity.

## Stages of Motor Learning (Fitts and Posner, 1967)

– How do these look using LAMP?

### Cognitive stage:

- ✓ Hits every icon without searching,
- ✓ Miss hits, random perseverations,
- ✓ No joint engagement while selecting

## Stages of Motor Learning (Fitts and Posner, 1967)

# Associative

- ✓ Searches in correct area,
- ✓ When correct icon is selected gives engagement- ex. hold out hand for food, or nod/yes, meaning I found it.
- ✓ Searching screen and then select.
- ✓ Hits wrong icon and indicates no/nod, verbalizes no.
- ✓ Shows joy when correct icon is hit.
- ✓ Perseverates purposefully on location.
- ✓ Hits first icon and searches for second icon.

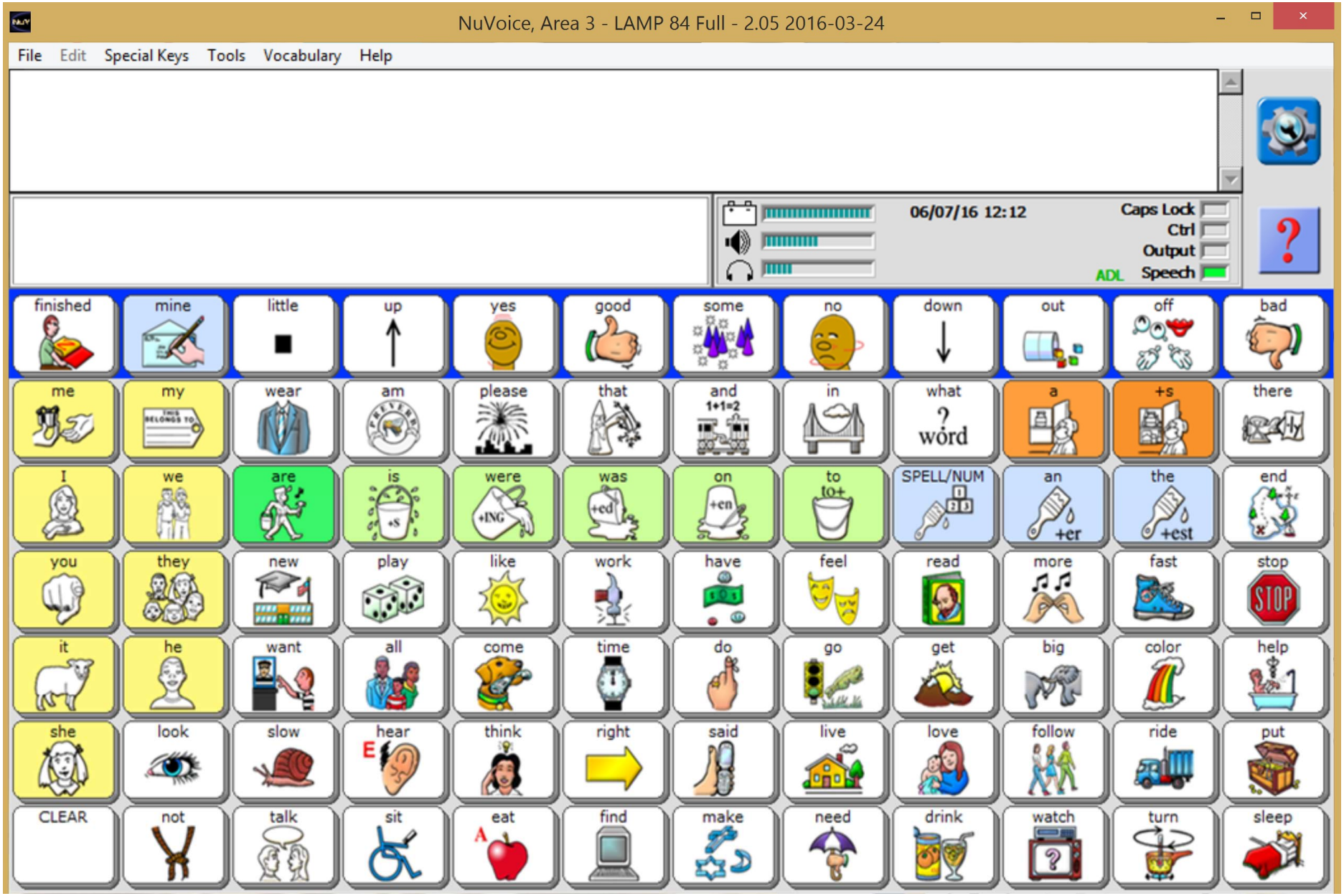
## Stages of Motor Learning (Fitts and Posner, 1967)

### Automatic

- ✓ Fluid movement when selecting
- ✓ No searching
- ✓ First and or second icon no break in movement,
- ✓ Joint engagement/joy,
- ✓ Purposeful perseveration

### Automatic Generalized

- ✓ Word is used spontaneously across environments
- ✓ Engaged with people
- ✓ Initiates communication

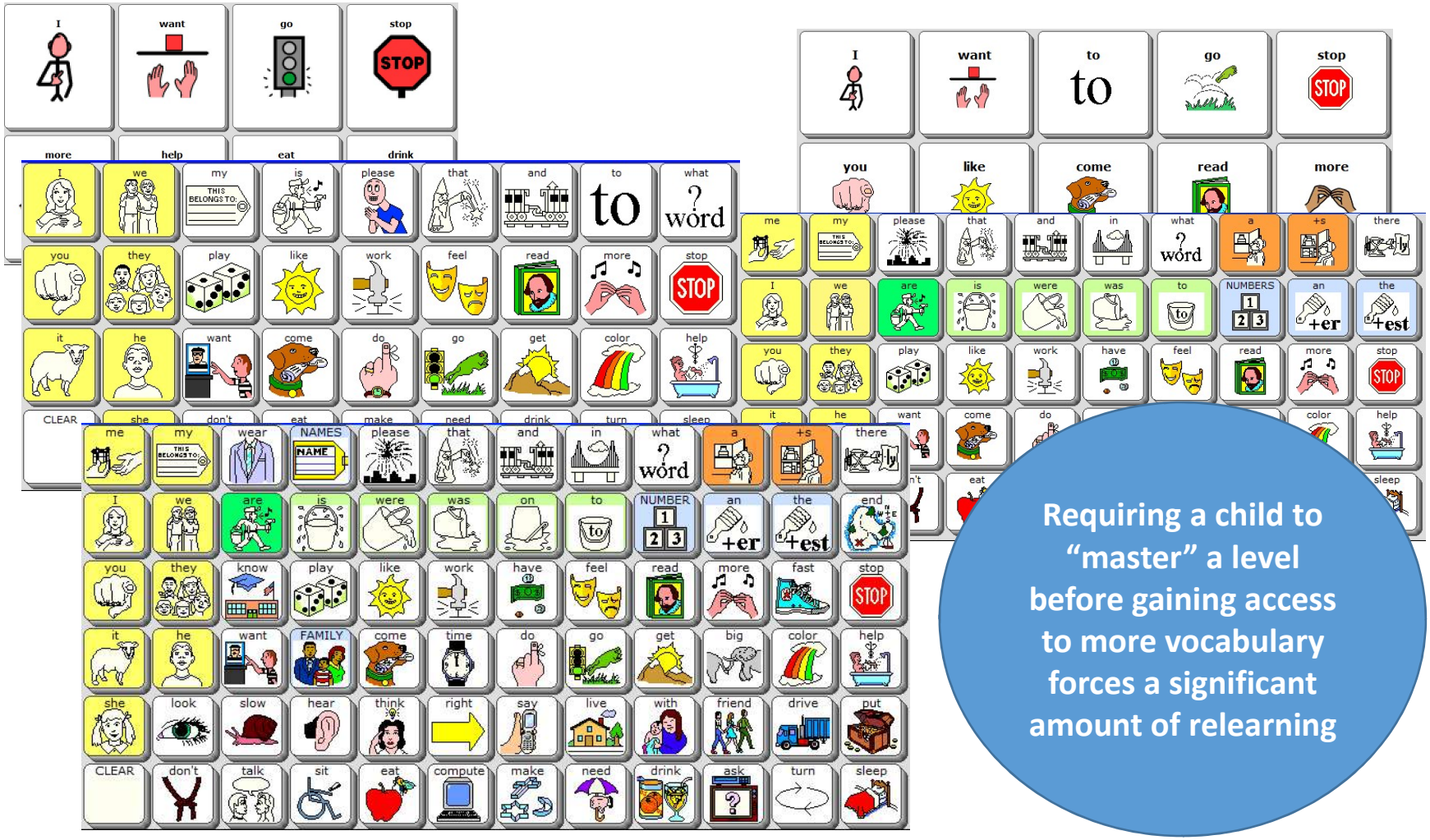

NuVoice, Area 3 - LAMP 84 Full - 2.05 2016-03-24
File Edit Special Keys Tools Vocabulary Help
06/07/16 12:12
Caps Lock
Ctrl
Output
ADL Speech
finished mine little up yes good some no down out off bad
me my wear am please that and 1+1=2 in what ? word a +s there
I we are is were was on to SPELL/NUM an the end
you they new play like work have feel read more fast stop
it he want all come time do go get big color help
she look slow hear think right said live love follow ride put
CLEAR not talk sit eat find make need drink watch turn sleep

# Consistent & Unique Motor Patterns

## The Device

- The same vocabulary should be consistently available in all settings.
- Teach motor pattern,  NOT metaphor
- Start with a system than can evolve to support complex language without changing motor patterns.
- High tech systems allow for the addition of hundreds and thousands of words <u>without</u> changing previously learned motor patterns.

# Less is not More….




Requiring a child to "master" a level before gaining access to more vocabulary forces a significant amount of relearning

Most non-speaking children begin by using “nonelectronic communication boards or simple AAC technologies” (Light & Drager, 2008), typically tools that have limited consideration for consistency of grid arrangement and icon locations. As a child’s needs grow, the child may be switched to a more complex device, with the icon grid completely rearranged for access to more vocabulary. We argue that the practice of starting with simple technologies and switching to unrelated complex devices later in life may negatively affect language development by preventing development of fluency and impacting short-term memory function: changing the location of items in grids necessities changing the lexical representation another user of aided AAC may have formed those items.

E. Dukhovny, S. Gahl / Journal of Communication Disorders 48 (2014) 52–60 53

# Consistent & Unique Motor Patterns

## Levels of Prompting to Achieve Motor Automaticity –use least amount required/fade quickly

- Full physical assistance (hand over hand/hand under hand)
- Partial Physical assistance (touch elbow)
- Modeling
- Gestures (pointing)
- Direct Verbal Cue ("Do you want to go?")
- Visual Prompt (gesture/point toward device)
- Indirect Verbal Cue/Open ended ?("What now?")
- Situational Cues (toy placed out of reach)
- Wait for child to activate (pause)

# Consistent & Unique Motor Patterns

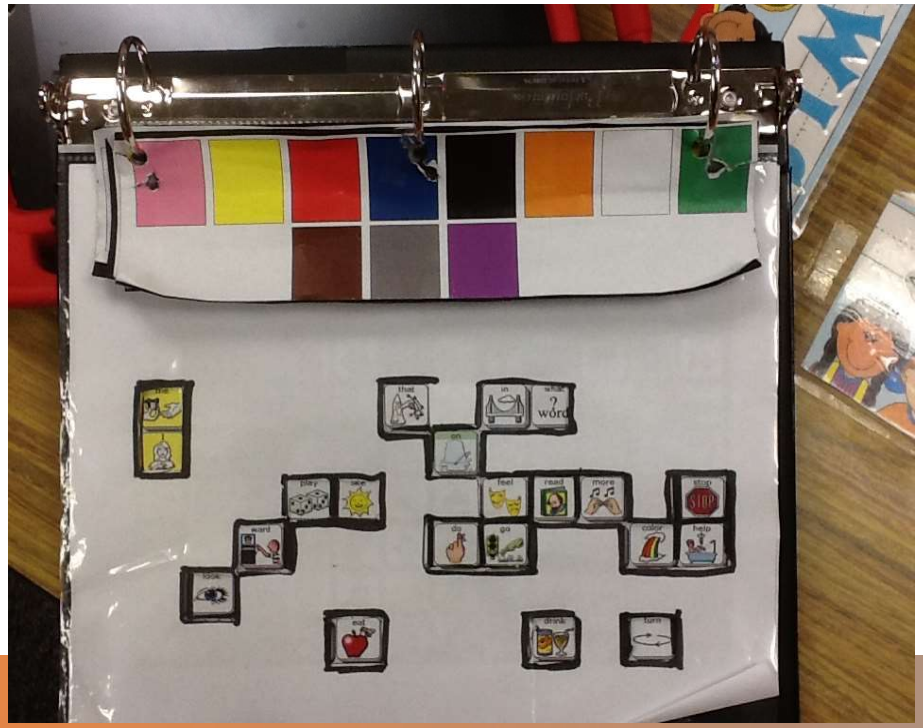
## How to Help Achieve Motor Automaticity

### Other Supports:

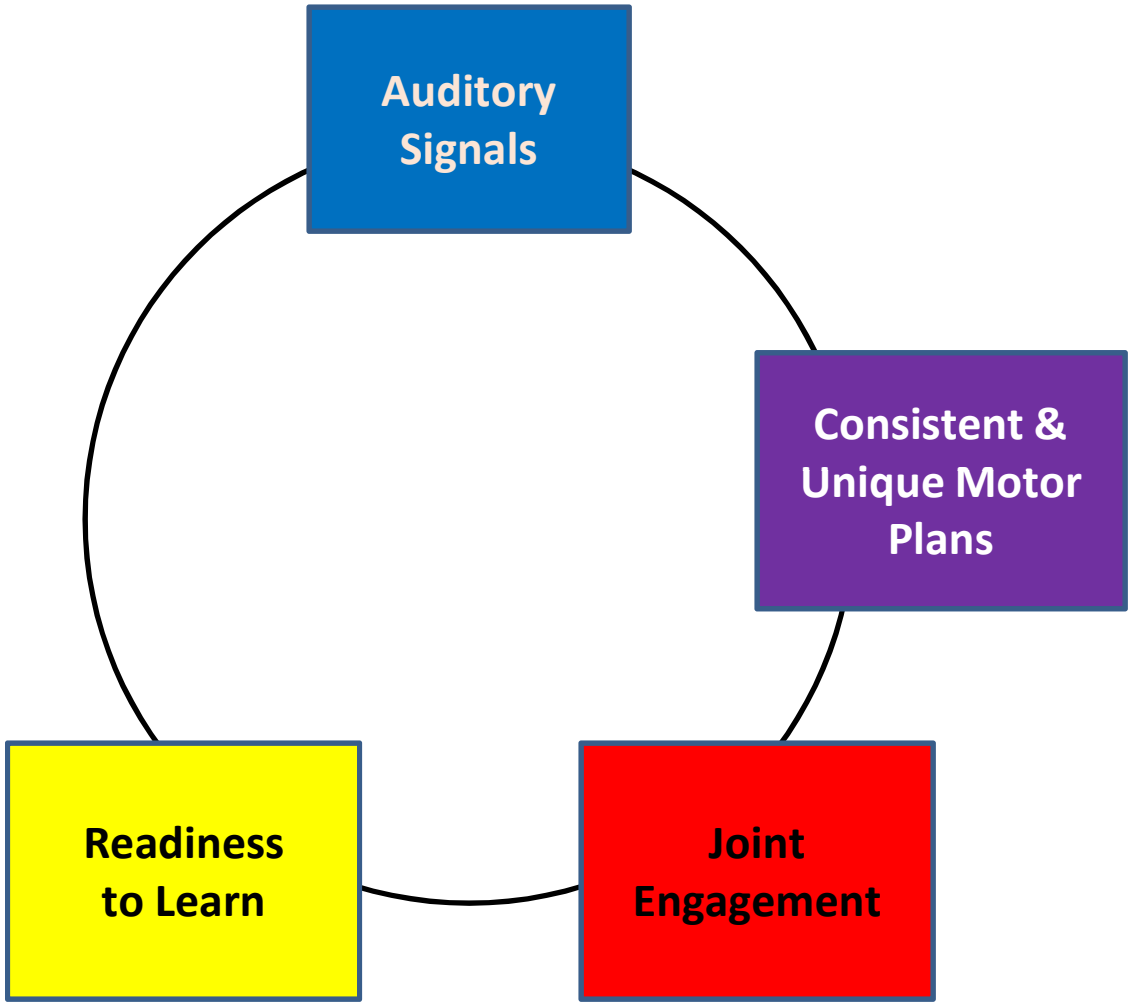
- Use Vocabulary Builder to model and teach (quickly return to the full vocab-AAC device is a tool for babbling)
- Use keyguards
- Use masking
- Change color of keys to increase contrast
- Experiment with stylus

# Consistent & Unique Motor Patterns

Low Tech: Plan ahead - don't be short sighted or motor plans will change



# Components of LAMP



# Weakness: Auditory Processing

The way sounds and words are perceived directly influences an individual's ability to attend to and produce those sounds.

Individuals with autism have trouble segmenting incoming speech into meaningful word units."

( Prizant 1983)

Studies on language acquisition in infants have demonstrated that statistical regularities in speech steams by guide one of the earliest steps in linguistic decoding (words segmentation)

(Aslin, Saffran, & Newport, 1996; Theiessen @Saffran, 2003)

# LAMP Goal: Auditory Processing

- LAMP utilizes a speech-generating device that pairs consistent motor patterns with consistent auditory output as in natural speech development.
- The auditory output provides additional sensory information to enhance language learning.

# What is Segmentation?

It is the process of identifying the boundaries between words, syllables or phonemes in spoken natural language

# Auditory Signals

Pinker "The Language Instinct" (1994)

In speech one word runs into the next seamlessly; there are no silences between spoken words the way there are white spaces between written words.

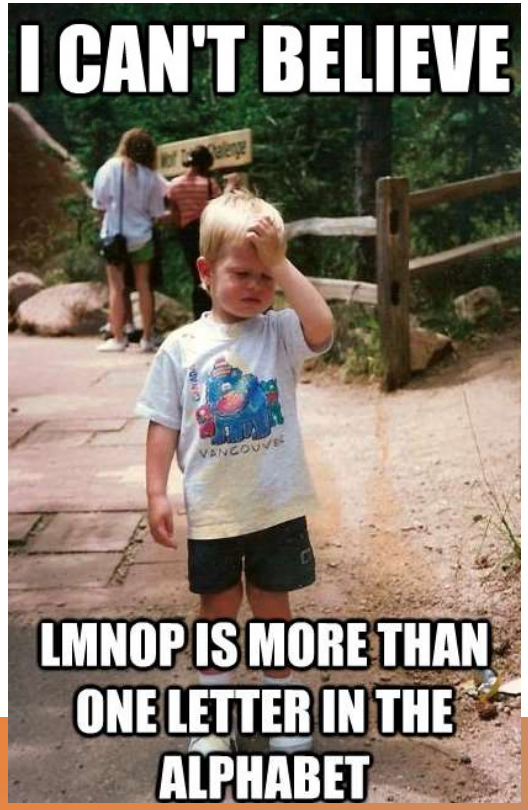
We simply hallucinate word boundaries when we reach the edge of a stretch of sound that matches some entry in our mental dictionary

## Auditory Signals

Results of recent FMRI study comparing segmentation ability in children with and without autism found "Unlike traditionally developing children, children with autism did not show a facility effect of increasing clues to word boundaries…These findings suggest that in autism the brain is not as sensitive to the statistical structures…

Scott-VanSeeland, McNealy et al. (2010)

# Segmentation linked to later ability in preschool




Studies on language acquisition in infants have demonstrated that statistical regularities in speech streams may guide one of the earliest steps in linguistic decoding: word segmentation (Aslin, Saffran & Newport, 1998. Aslin a& Newport, 1996: Theiessen @ Seffran, 2003).

In fact, the degree to which infants successfully segment has been linked to later ability in preschool children…….(Newman, Ratner, Jusczyk, & Dow 2006)

# Auditory Signals

## Device Considerations

La Sorte (1993): "Synthetic speech can facilitate the segmenting of speech into word units since the boundaries are more clearly defined than in human speech, and stress is not an important aspect of synthesized speech."

- Therefore, the use of speech generating devices with synthesized speech may be the best systems to use with individuals with autism as they may assist in the segmentation of speech.

# So what is the role of the device?

1. The device allows processing of speech sounds by providing a consistent motor movement with consistent auditory output while providing immediate visual reaction = convergence

2. Active means of language learning – learn to use words on the device and see natural reactions.

3. As phonetic representations develop individuals may begin to use words that *sound like* the intended word, and put sounds together to create new words.

# Auditory Signals

## Device Considerations

***Each Unique Motor Pattern = Specific auditory signal =A specific word***

- Device needs to be single WORD based
- Core words
- Voice selection on device should provide good auditory model
- Almost simultaneous voice production between key selections and vocal output
- Allow access to words separate from other words so that segmentation can develop
- Shouldn't hear a word to get a word (i.e. One Hit on Accent)

# Words Words Words! (instead of Phrases)

# Consistent & Unique Motor Patterns

## LAMP Focus: Teach core words

| most frequently occurring words | % of total words communicated |
|---|---|
| 50 | 40-50% |
| 100 | 60% |
| 200 | 70% |
| 400 | 80% |

Vanderheiden & Kelso (1987)

| Words | Percentage |
|---|---|
| 1. I | 9.5 |
| 2. No | 8.5 |
| 3. Yes/yea | 7.6 |
| 4. my | 5.8 |
| 5. the | 5.2 |
| 6. want | 5.0 |
| 7. is | 4.9 |
| 8. it | 4.9 |
| 9. that | 4.9 |
| 10. a | 4.6 |
| 11. go | 4.4 |
| 12. mine | 3.8 |
| 13. you | 3.2 |
| 14. what | 3.1 |
| 15. on | 2.8 |
| 16. in | 2.7 |
| 17. here | 2.7 |
| 18. more | 2.6 |
| 19. out | 2.4 |
| 20. off | 2.3 |
| 21. some | 2.3 |
| 22. help | 2.1 |
| 23. all done/finished | 1.0 |

These 26 core words comprise **96.3** % of the total words used by toddlers in this study

Banajee,M., DiCarlo, C, & Buras-Stricklin, S. (2003). Core Vocabulary Determination for Toddlers, *Augmentative and Alternative Communication*, 2, 67-73.

**96.3%**

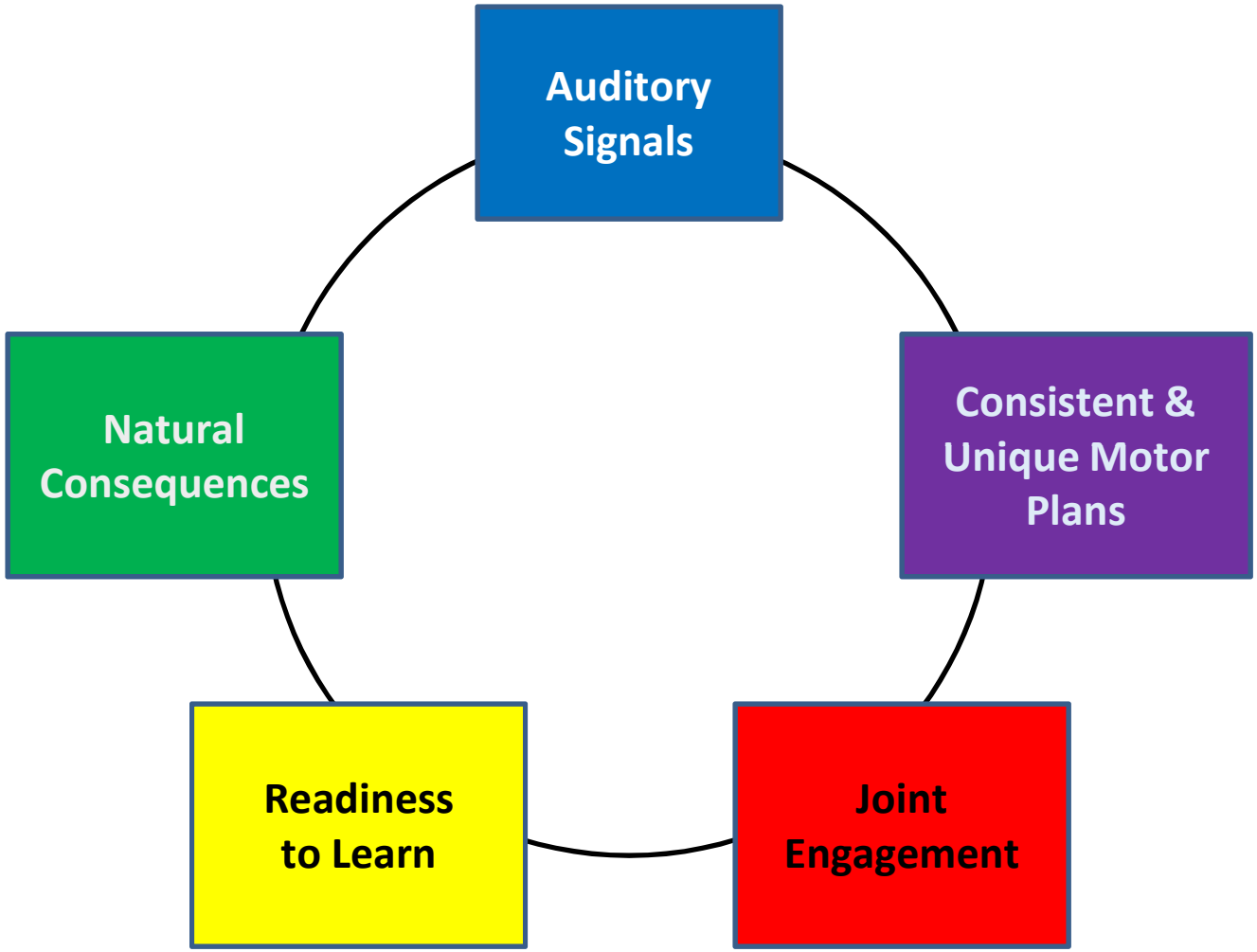
## Consistent & Unique Motor Patterns

- Picture producing words *RARELY* provide communication power
- Early vocabulary samples have very few, if any, picture producing words
- Any representation method requires learning

## Consistent & Unique Motor Patterns

- Focus on “core” vocabulary as opposed to noun vocabulary because…
  - Generalization occurs through core
  - Expansion follows generalization
  - Expressive language may come before receptive language as repeated use of a word (with AAC device)

# Components of LAMP



## Natural Consequences

No Mistakes:

No matter what the child selects on the AAC device, the rule for the communication partner is

*RESPOND*

Allows the opportunity to teach new words through converging that set of motor, auditory, and visual inputs.

## Natural Consequences

Any attempts to communicate should have natural auditory/verbal, visual, and social consequences.

- Enables the client to attach meaning to the word.
- The natural consequences need to be intrinsically rewarding for the learner.

# Natural Consequences

## Positive and Animated

- Respond in an animated manner to help illustrate the meaning of the word and to keep the learner engaged.
- Individuals are more apt to participate and communicate with shared attention when an activity is interesting and meaningful to them.

# Natural Consequences

## Generalization

When responding, don't always provide the same response for a word. To help the individual generalize the meaning of a word, provide different appropriate responses.

Core words have many meanings. Meanings of words are continually revised as they're used in different contexts.

## Natural Consequences

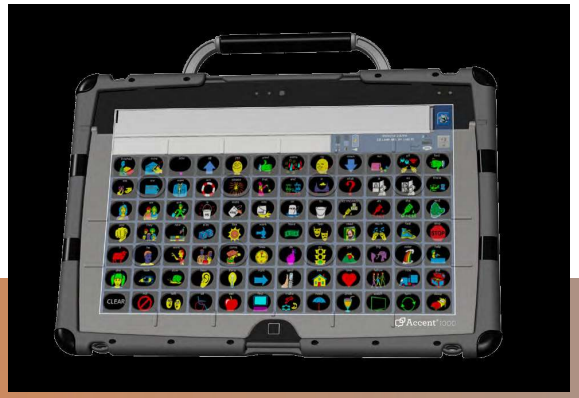
- **Timing** - The timing of the motor and auditory input is critical for the integration of those senses. Some device voices require more processing time and therefore delay the auditory output.

- Initially, timing of the visual output is equally important

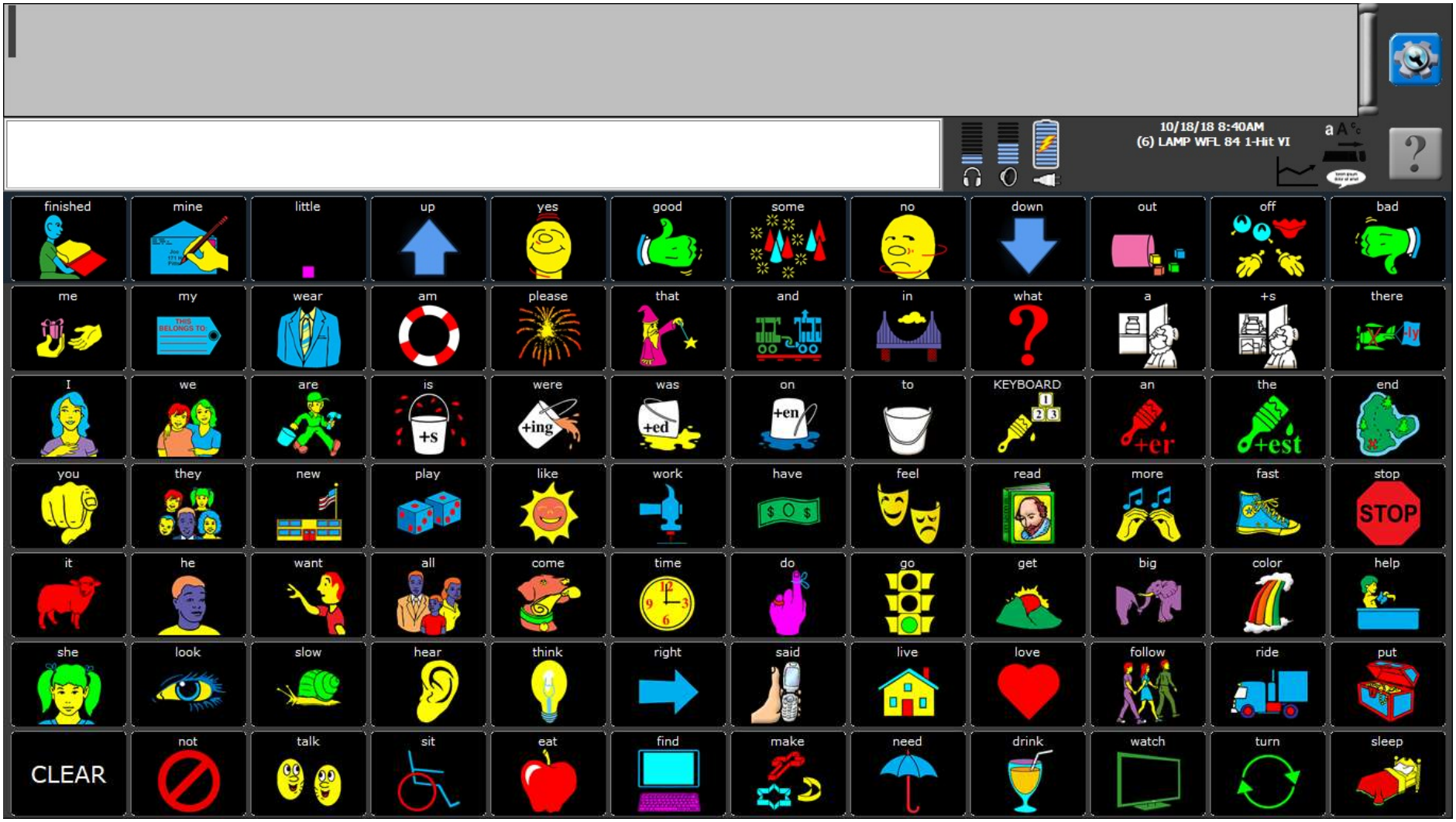
# LAMP Words for Life VI™

- **LAMP Words For Life®** was modified for individuals with Visual Impairment

- What's Different?
  - High contrast/simplified icons
  - Simplified motor patterns to enhance rate of communication and reduce tactile search
  - Three corners are left blank on most screens as they are easy to find. Favorite things can be stored here!
  - Tactile Keyguard with raised areas to make all words easily findable



# LAMP Words for Life VI™

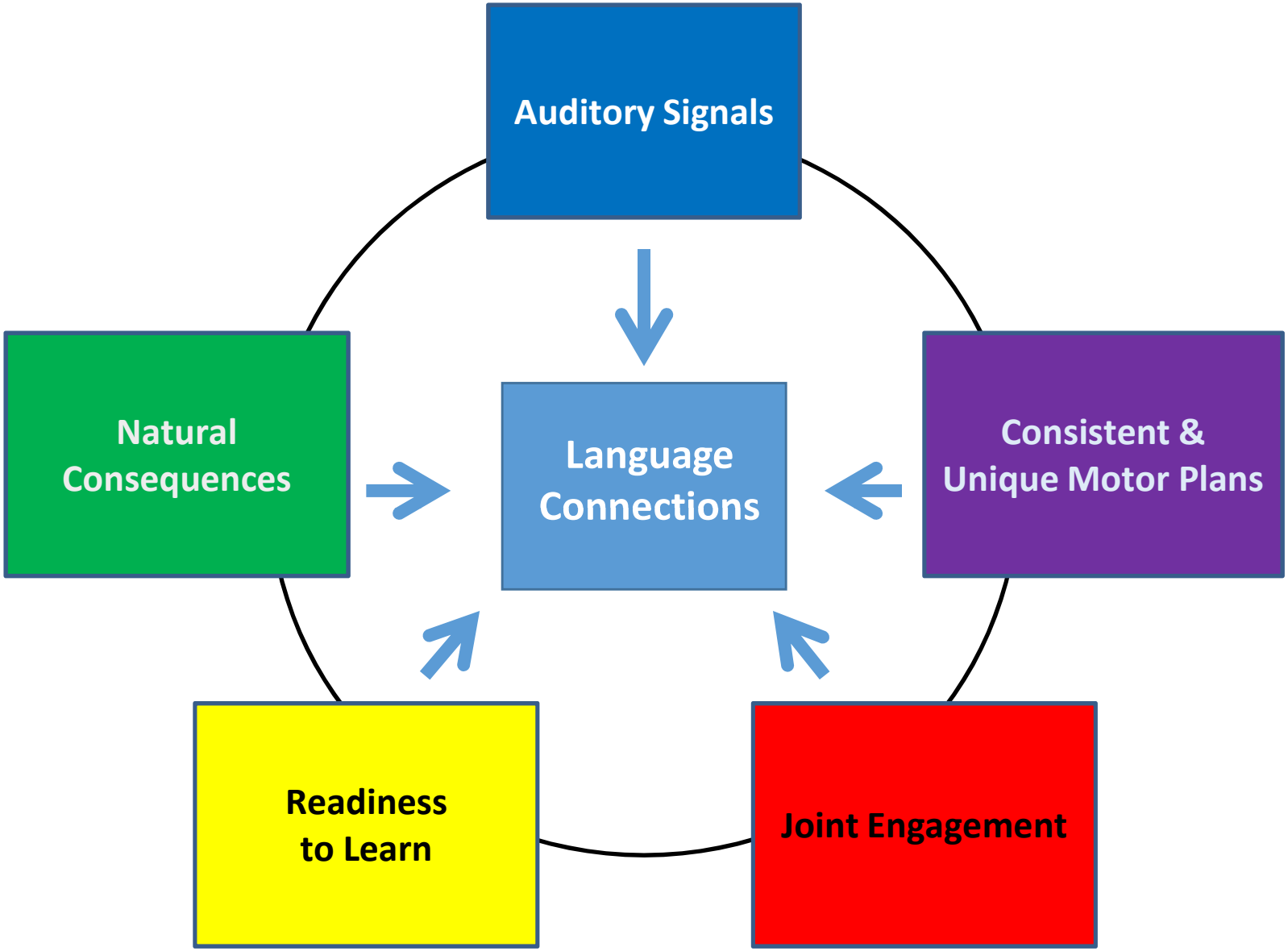


# Natural Consequences

## The Device

- When introducing the device, the desired word should be accessed with one touch/one icon (LAMP WFL 1 Hit) so that the learner receives immediate feedback from his actions.
- **Transition as quickly as possible!**

- Text - When a word is spoken on a device, literacy is enhanced by display of the corresponding text. It may be helpful to make the text as large as possible.


Auditory Signals
Consistent & Unique Motor Plans
Joint Engagement
Readiness to Learn
Natural Consequences
Language Connections

# Language Connections

- **Cause and Effect-** errorless learning and consistent feedback to the motor task (Vocabulary Builder)
- **Generalization-**variety of activities in single session
- **Discrimination-** Add words to increase vocab and allow for discrimination and problem solving
- **YOU** (the teacher, parent, SLP, care-giver, friend) need to learn words in order to teach words. Practice Practice! (Word Finder/PASS)

# Language Connections

## Symbols

- The intrinsic value of the reinforcer is more important than the symbol
- One icon or icon sequence to represent all meanings of the word
- The more iconic, the harder it may be to generalize
- "Sometimes the person with autism finds a symbol/ line drawing less confusing than a detailed photograph. People with autism tend to perceive details more powerfully than the whole. Angermeier, et al (2008)

# Mitchell and McMurray (2007)– explaining vocab explosion

1. Words are learned in parallel – the system must be able to build a representation of many words at the same time (i.e. they don't have to finish learning one word before learning another)
2. Words must vary in difficulty – specifically there must be more difficult words (which take longer) than easy words
3. "Acceleration in word learning arises out of the mathematical regularities of parallel learning and variation in difficulty."

## IMPLICATIONS?

# Language Connections

## Communicative Functions

- Protesting
- Commenting
- Greeting
- Asking
- Directing
- Suggesting
- Telling
- Choosing

# Language Connections

## Give consideration to…

- Speech Modeling
- Verbal Prompts and Reinforcement
- Voice Selection

# Using the Device at Home

- Have the device available
- Learn about the device
- Children do what their parents do
- Respond to anything and everything
- Include siblings
- Books, mealtimes, cooking, games
- Ask Open ended questions

# Using the Device in the Classroom

- You have to learn the communicate before you can communicate to learn
- Be cautious about combining two difficult activities: communicating and academics
- During academic time: Model, model, model (manual boards, PASS)
- Implementation of communication should be fun or you may lose them!

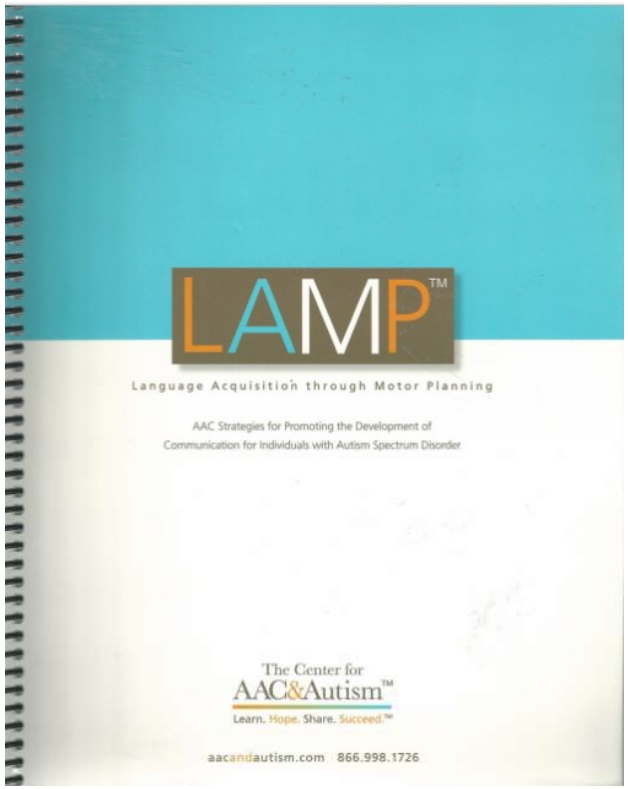
# Use Video Modeling

Video modeling consisted of each child watching a videotape of models performing the target behavior, whereas in vivo modeling consisted of the children observing live models perform the target behavior. After the observations, children were tested for acquisition and generalization of target behaviors. Results suggest that video modeling led to faster acquisition of tasks than in vivo modeling and was effective in promoting generalization

Marjorie H. Charlop-Christy, Loc Le, and Kurt A. Freeman

*Journal of Autism and Developmental Disorders, Vol. 30, No. 6, 2000*

# Data Collection…

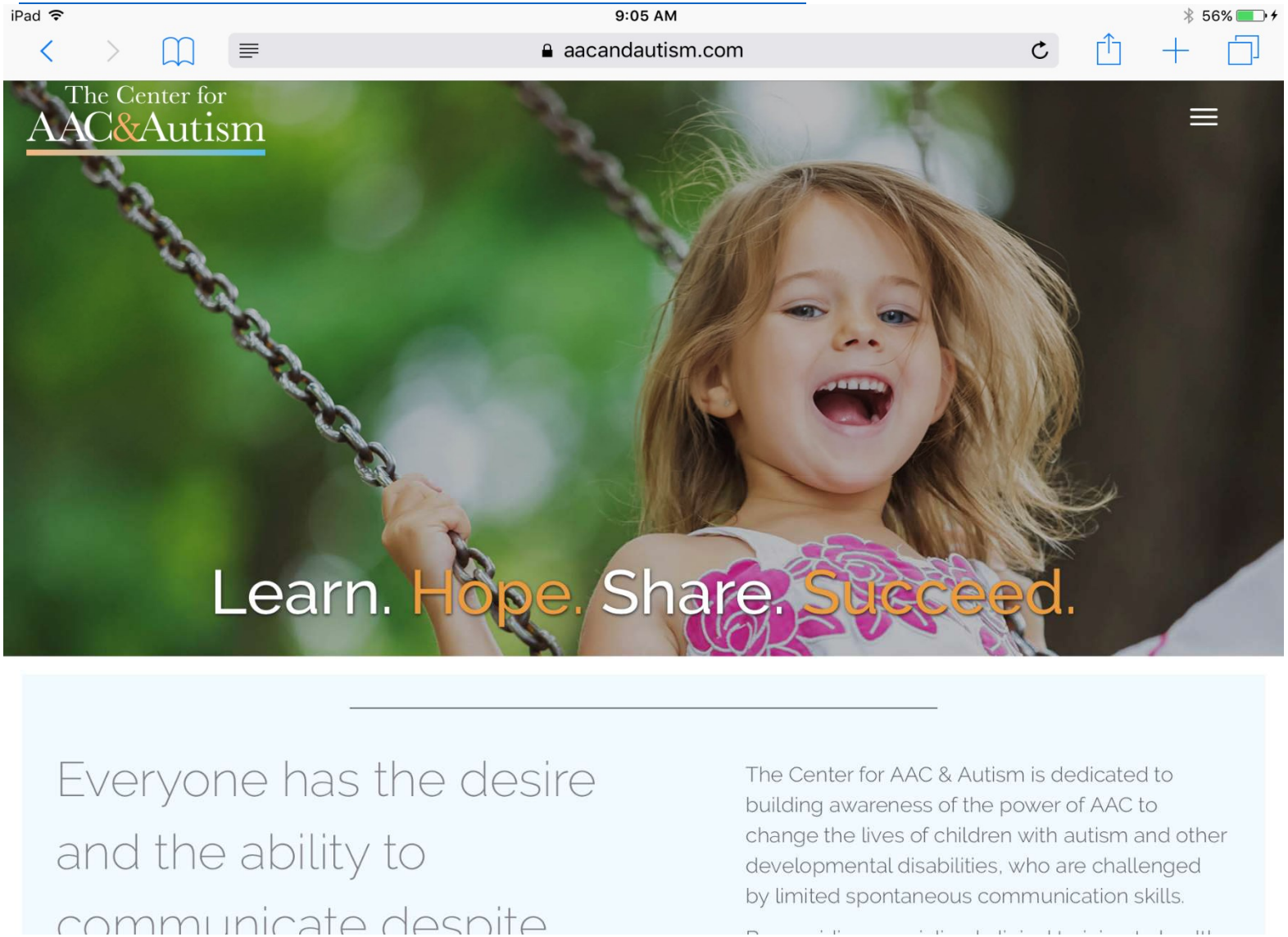



# LAMP Manual pgs 53-63

# Data Collection…


https://realizelanguage.com

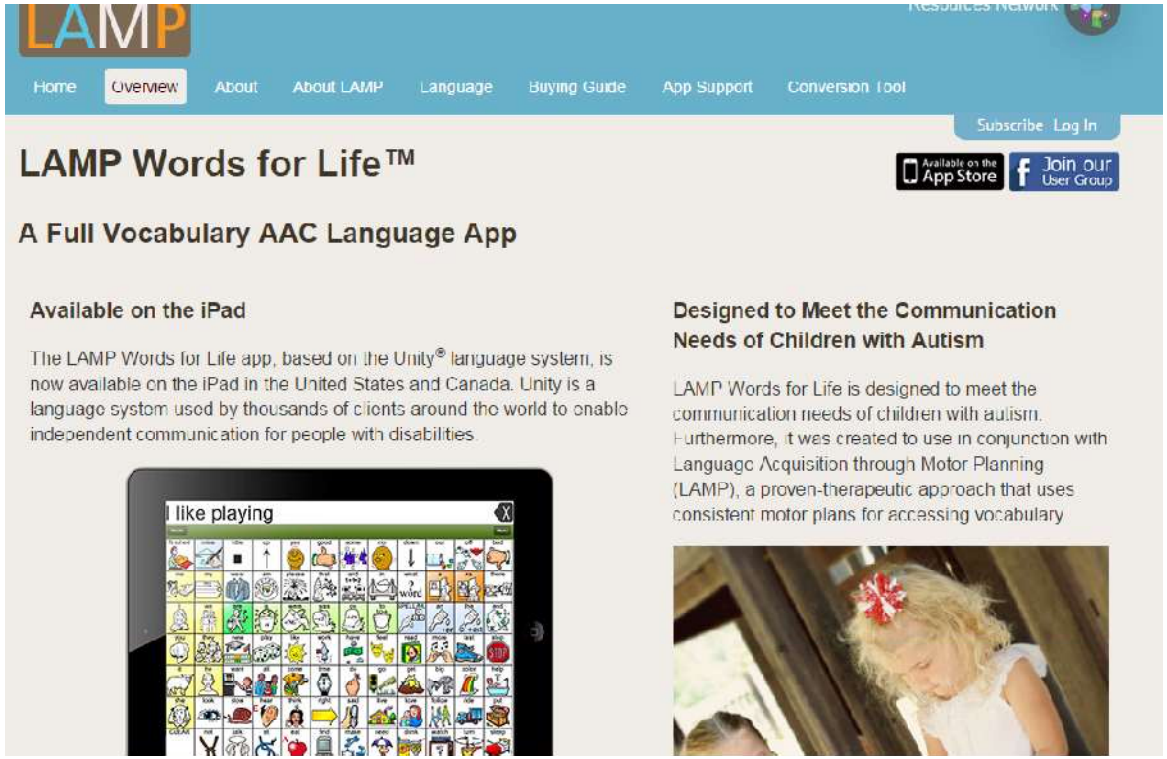
# www.aacandautism.com



# Research?

Center for AAC and Autism Website-What is LAMP-Research and References

https://www.aacandautism.com/lamp/research




# Information regarding Words for Life app: https://lampwflapp.com/

# facebook


The Center for AAC & Autism
Chris
Home
The two words 'information' and 'communication' are often used interchangeably, but the signify quite different things. Information is giving out; communication is getting through.
- Sydney J. Harris
AAC & Autism
The Center for AAC & Autism
Learn. Hope. Share. Succeed.™
Product/Service
Contact Us
Liked
Message
Timeline
About
Likes
Photos
Videos
Product/Service
Search for posts on this Page
24,929 people like this
Gretchen Thull Bright and 28 other friends
Status
Photo / Video
Write something on this Page...
The Center for AAC & Autism

# App Partner Program

- Therapy/Educational Professionals who have been trained on the LAMP approach and the LAMP Words for Life app can become an App Partner.

- Complete application at https://lampwflapp.com/support/app-partner-program

# LAMP Certification

- Licensed and credentialed professionals from different disciplines who apply LAMP principles and practices in their existing area of expertise (such as speech/language pathologists, occupational therapists, special educators, psychologists, etc.)

- https://www.aacandautism.com/lamp-certification

The Center for AAC&Autism™

Learn. Hope. Share. Succeed.™

**Telephone:**

330-202-5800 (local or international toll line)

866-998-1726 (toll free US)

**Email:** lamp@aacandautism.com

Follow us on Facebook

to receive the latest news and updates

The Center for AAC&Autism™

Learn. Hope. Share. Succeed.™

**Melissa Pouncey, MS, CCC-SLP**

**Email:**

**melrvanp@gmail.com or**

**mpouncey@unitedability.org**