

AAC Beyond Teaching Requests

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OVERVIEW

01

BACKGROUND

SLPs need empirical evidence to guide AAC interventions

02

COMMUNICATIVE FUNCTIONS

Most of the AAC research addresses requesting

03

SKINNER'S VERBAL OPERANTS

Understanding communication in its context is helpful

04

SYSTEMATIC REVIEW

Recent review of AAC interventions to teach tacts

05

IMPLICATIONS

SLPs can teach AAC commenting, labeling, or telling

2

01 BACKGROUND





Augmentative Alternative Communication

- Often recommended for children and adolescents with disabilities that limit their communication.
- Several systematic reviews supporting its use generally and several that investigate the effectiveness of specific types of AAC interventions or with specific populations.
- A few reviews categorize the purpose, function, or type of communication that is taught.
- The overwhelming majority of studies feature interventions to teach requesting.



Requesting

- It is understandable and necessary to begin AAC interventions with a focus on requesting.
- There is an obvious motivation and obvious reinforcer for any request.
- Through requesting, the communicative “exchange” (I do something to get something) is shaped and practiced.
- Often children with disabilities are primarily motivated to get their wants and needs met.
- It is also our ethical responsibility to empower individuals with disabilities to get their wants and needs met.
- It is reasonable that the majority of the research is focused on teaching requesting
- However, individuals need other more complex communication for social engagement, relationship, and share information.

Speech-Language Pathologists

NEED MORE EMPIRICAL GUIDANCE REGARDING THE TEACHING OF AAC COMMUNICATIVE FUNCTIONS BEYOND REQUESTING

Without such guidance, SLPs interventions and teaching procedures will lack precision, confidence, and effectiveness.



COMMUNICATIVE FUNCTIONS 02



Communicative Functions FRAMEWORKS

There are many different frameworks for categorizing the purposes of communication.



Checklist of Communicative Functions

(Wetherby, 1995)



BEHAVIOR REGULATION

Communicative actions used to regulate behavior for obtaining or restricting environmental goals



SOCIAL INTERACTION

Communicative actions used to direct another's attention to oneself for social purposes



JOINT ATTENTION

Actions used to direct another's attention for purposes of sharing the focus on an activity or event

Communication Matrix

(Rowland, 2004)



REFUSE

Express discomfort, protest, reject something



OBTAIN

Express comfort, obtain something, obtain more of something, request action, request more of action, makes choices, request object



SOCIAL

Express interest in people, attract attention, request attention, show affection, greetings, offers things, direct someones attention, uses polite social forms



INFORMATION

Answers yes/no questions, ask questions, names things or people, makes comments

Augmentative & Alternative Communication

(Beukelman & Light, 2020)



WANTS & NEEDS

To regulate the behavior of another as a means to fulfill needs/wants



INFORMATION TRANSFER

To share information



SOCIAL CLOSENESS

To establish, maintain, and/or develop personal relationships



SOCIAL ETIQUETTE

To conform to social conventions of politeness

Why is it important to understand the function of specific instances of communication?

Because the function links to strategic teaching procedures!

“Vocabulary” vs. purposeful communication

Teach requesting differently than teaching labeling



03

VERBAL BEHAVIOR



Communication in Context of A-B-Cs



ANTECEDENTS

Anything that happens prior to behavior occurrence, including the presence of stimuli and states of deprivation or satiation



BEHAVIORS

Anything that an individual says or does, regardless of form, including vocalizations, gestures, pointing, selecting symbols, speaking, crying etc



CONSEQUENCES

Anything that happens after behavior occurrence, including obtaining something or avoiding something

Antecedent

Wants a book

Sees a book

Hears "book"

Hears "What do you have?"

Sees word book

Behavior

"book"

"book"

"book"

"book"

"book"

Same Form

Consequence

Gets a book

Attention/praise

Attention/praise

Attention/praise

Attention/praise

Function

request

label

imitation

answering questions

reading

Different Function

ELEMENTARY VERBAL OPERANTS

(Skinner, 1979)

Verbal behavior is socially mediated behavior



ECHOIC/DUPLIC

Imitation



Repeating what is heard or doing what is seen

Formal similarity

Asking for reinforcers



Request

MAND

TACT

Comment, label, information share, telling about something



Naming an object, action, or state because you see/saw it or feel/felt it

Answering questions, singing a song, filling in a blank

Greeting someone because someone else greeted you

No formal similarity between the various antecedent and behavior



Conversation and more

INTRAVERBAL

Antecedents	Layman's Term	Verbal Operant	Consequences
Deprivation (no shoes and going outside)	Request	Mand	Specific Reinforcement (get what you asked for- shoes)
Non-verbal stimulus (see a shoe)	Label	Tact	General Reinforcement (praise, approval, attention)
Verbal stimulus with correspondence ("shoe")	Imitation	Echoic	General Reinforcement (praise, approval, attention)
Verbal stimulus without correspondence ("What do you wear on your feet?")	Answering Questions or Fill In	Intraverbal	General Reinforcement (praise, approval, attention)

04 SYSTEMATIC REVIEW



Purpose of Systematic Review

Identify and describe the augmentative and alternative communication (AAC) interventions that improve the labeling, commenting, and telling skills (i.e., tacting) of children with communication disabilities.

- Tacting comes after requesting developmentally and is the preskill for more complex academic and social communication such as storytelling.

RESEARCH QUESTIONS



ONE

What is the quality and quantity of research investigating AAC interventions to promote labeling, commenting, and telling skills of children with communication disabilities?



TWO

Which (if any) AAC interventions have sufficient empirical evidence to support their recommendation in practice for teaching children with communication disabilities labeling, commenting, and telling skills?

ELIGIBILITY

P AAC users with communication disabilities who are 18 years old or younger, with no exclusions based on ethnicity, age, or type of disability

I Interventions, teaching procedures, and strategies involving aided or unaided AAC

C Each AAC intervention will be compared to other AAC interventions or itself

O Outcomes involved an expressive language task that could be defined as tacting

INCLUSION CRITERIA

- 1** published in 2022 or earlier
- 2** written/published in English
- 3** employed a quantitative, causal inference intervention design, including single case experimental designs and group designs with control groups
- 4** the majority (>50%) of participants were children (18 years or younger) with communication disabilities who use AAC
- 5** investigated the effect of any AAC intervention
- 6** outcomes were collected during an expressive language task of labeling, commenting, or telling about something.

METHOD

Databases



CINAHL
Academic Search
Complete
PsychINFO
ERIC
MEDLINE

Search Terms

AB (Child* OR adolescent* OR toddler* or student* or learner* or preschooler* OR youth) AND TX ("complex communication needs" OR "limited speech" OR "little or no functional speech" OR "severe communication disability" OR "who require* AAC" OR "using AAC" OR "who use* AAC" OR "little or no intelligible speech" OR "who use* augmentative and alternative communication" OR "Who require* augmentative and alternative communication" OR "communication disorder*" OR "speech disorder*" OR nonverbal) AND AB ("Augmentative and alternative communication" OR AAC OR "communication board*" OR "speech generating device*" OR "voice output device*" OR "communication aid*" OR PECS OR "manual sign*" OR "key word sign*" OR "communication device*")

2392 Studies Imported for Screening



926 Duplicates Removed

1466 Titles & Abstracts Screened



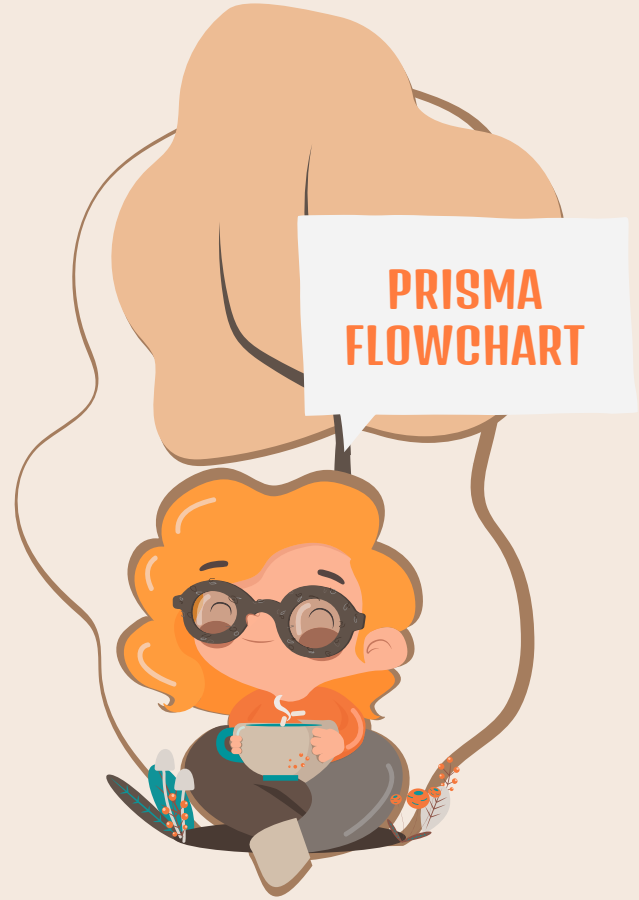
1375 Irrelevant Studies

88 Full Texts Assessed for Eligibility



74 Studies Excluded

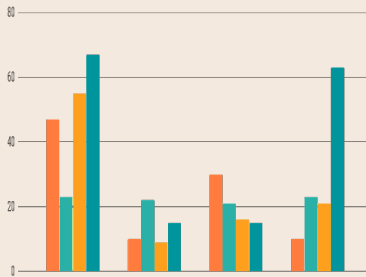
14 Studies Included in Review



RESULTS

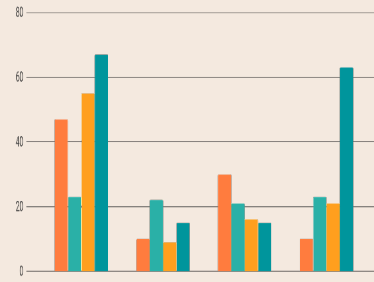
Participants	Arrangement/ Setting	Geographical Location	Activity/Context for Intervention	Teaching and/or Prompting Procedures
Eight studies included early childhood participants; five studies included middle childhood participants; one study included adolescents	Ten studies delivered the intervention one-on-one; three studies included one interventionist to two children; one study was conducted in a classroom with four children at a time	Twelve studies were conducted in the United States and two studies were conducted in South Africa	Seven studies included storybooks and story reading intervention contexts; five studies used playing games or toys as the context; for two studies the interventions were delivered during intensive teaching sessions	In five studies, a three to five-level prompt hierarchy was used to teach/prompt target behaviors, all of which included an aided modeling prompt; in six studies, aided modeling was the primary or underspecified teaching/prompting procedure; in three studies, direct prompts (visual or physical) were the primary teaching/prompting procedure
AAC Target Behaviors	Research Design	Effectiveness of Intervention	What Works Clearinghouse	Risk of Bias
In four studies, single graphic symbol responses were taught; in ten studies, two or more graphic symbols were taught, two of which targeted grammatical features	Three studies employed multiple probe designs across participants; two studies employed multiple baseline designs across participants; five studies employed multiple probe designs across targets; one study employed multiple baseline design across sets of symbols; one study employed an adapted alternating treatment design; one study employed an adapted alternating treatment design nested in a multiple baseline design across participants	In nine studies, the intervention was highly effective; in one study, the intervention was moderately effective; in three studies, the effectiveness was mixed or inconsistent; in one study, the intervention was ineffective	Thirteen studies meet standards with reservations and one study meets without reservations	All studies are considered high risk of bias, primarily due to lack of blinding of research personnel and data collectors and incomplete procedural information

Effects by AAC Procedure



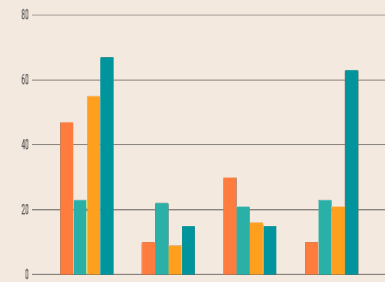
Prompt Hierarchies

Three of the five studies had strong effects whereas two studies had mixed or unclear effects



Aided Modeling Alone

Three of the six studies had strong effects whereas three studies had mixed or unclear effects



Direct Prompting

All three studies had strong effects

Effects by AAC Context



Book Reading

Five of the seven studies had strong effects, one had moderate, and one had mixed effects



Play

Two of the five had strong effects, one had moderate effects, and two had no effects



Intensive Teaching

Both studies had strong effects

STUDY QUALITY & RISK OF BIAS



WHAT WORKS

All of the studies met the What Works Clearinghouse standards with or without reservation



RISK OF BIAS

All of the studies were at high risk of bias due to non-masked research personnel, lack of randomization, and incomplete procedural descriptions

05 IMPLICATIONS



RECOMMENDATIONS



TEACHING PROCEDURE

Safely recommend direct prompting.

When using aided modeling and prompt hierarchies SLPs need to make sure the critical variables are salient to the learner.



CONTEXT

Safely recommend intensive teaching and probably book reading, but not play contexts.

Likely because the critical antecedent and consequence variables are obscured.



RESEARCH

Researchers should increase the rigor of their studies by ensuring personnel are blind to condition, using randomization, and reporting their procedures clearly.

A-B-Cs of Teaching Tactics

P



A

ANTECEDENT

Non-verbal antecedents

Pictures in a book

Objects

Actions

Past experiences

B

BEHAVIOR

Labeling

Commenting

Telling about

Spoken

Gestured

AAC

C

CONSEQUENCE

Generalized reinforcers

Praise

Approval

Attention

Tokens

Money

SUGGESTIONS



Teaching Tactics

Make sure there is a clear and purposeful non-verbal antecedent

Only use verbal antecedents such as “What’s this?” only when necessary; expectant look or delay is good

Avoid using prompts (or adding unnecessary stimuli) that interfere with the antecedent-behavior relation

Choose prompting forms that align with the form of response you are expecting

Learners have to be interested in and motivated by generalized reinforcers

Teaching AAC Tacts - Example

A

ANTECEDENT

Pictures in a book

P

LEAST TO MOST LIKELY
TO BE EFFECTIVE

Hearing the words read
Expectant look or delay
Aided model (show
them what to do)
Physical assistance
(help them do it)

B

BEHAVIOR

Two-symbol label

C

CONSEQUENCE

Praise



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THANKS!



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