

Effects of a Group Augmentative and Alternative Communication Learning Experience on Willingness to Communicate and Attitudes toward a Computer-Based System: A Pilot Study

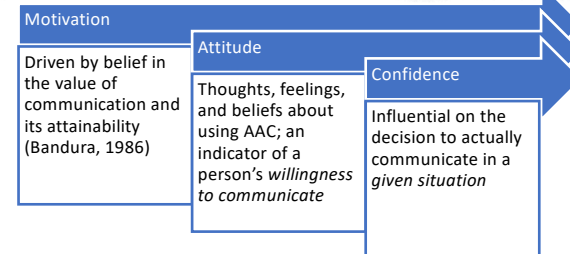
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Psychosocial Aspects of Communication

(Light, 2003, 2014)

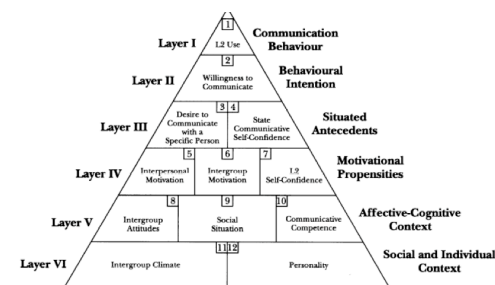


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Confidence

- Confidence developed through observations of people using AAC successfully and successful, diverse interactions with people who use AAC (Light, 2003)
- Mentor project (Light et al., 2007)
 - Educated adults who use AAC on socio-relational skills
 - Person who uses AAC becomes a mentor to another person who uses AAC
- People who use AAC are a heterogeneous and widespread population

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Willingness to Communicate

- Based on trait-based and situational variables
- Learner's "readiness to enter into discourse at a particular time with a specific person or persons, using a L2" (MacIntyre et al., 1998, p. 547)
- Situational factors most precede willingness to communicate (WTC)
 - Light's (2003) discussion of confidence
- Communicative competence model looks to research in second language acquisition (Light, 1989)

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Improving Confidence and Willingness to Communicate

Immersion (MacIntyre et al., 2001; MacIntyre et al., 2003; Baker & MacIntyre, 2003)

Robot-assisted simulations (Lee et al., 2011)

Online multiplayer role-play games (Horowitz, 2016; Reinders & Wattana, 2014)

Pair interactions, group dynamics oriented instruction, and cooperative learning techniques (Alikhani & Bagheridoust, 2017; Ning, 2013; Yu, 2015)

Community engagement and service encounters (Pellettieri, 2011; McNaughton & McDonough, 2015)

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Second Language Instruction Methods

Sociocultural Theory (Vygotsky, 1978)

- Zone of proximal development
- Does not need to be only between an expert and beginner, but learning can occur between varied levels including beginner and beginner (Lantolf, 2000; Donato, 1994)
- Parallels with many of the methods used to improve confidence and WTC: peer interactions, immersion classrooms, etc.

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AAC Instruction Methods

School-Based Services

- 80% of SLP school services are pull-out (2016 School Survey, 2016)
 - Instructional time available in classrooms
- Difference of interactions that take place in pull-out vs. push-in (Falk-Ross, 1996)
- Push-in results in greater gains in language skills and expression for children with language disorders (Falk-Ross, 1996; Stephenson, 2006)
- Benefits to children without disabilities for language learning (Capirci et al., 1998)
- Opportunities for co-teaching (Reblin, 1994)

Children who use AAC are not provided with opportunities to interact and communicate with their peers at a level that allows for them to further develop their language (Romski & Sevcik, 1996)

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Significance

- Psychosocial factors of communication are important in the communicative competence of people who use AAC (Light, 2003; 2014)
 - Motivation, attitude, confidence, and resilience
- People who use AAC may experience a lack of confidence and an unwillingness to communicate using their system
- Although established as theoretically important, research on improving confidence to communicate using AAC is limited

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Objective

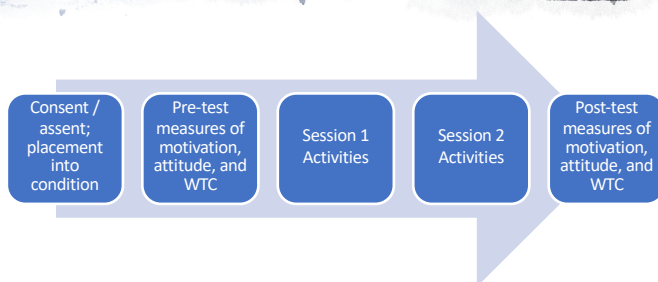
Does a group AAC intervention result in change in children's general motivation to communicate, attitude toward using computer-based AAC, and willingness to communicate using AAC when compared to a one-on-one AAC intervention and a control group?

Participants and Design

- 3rd grade students with no history of a communication disorder
- Mixed within/between subjects design
 - Condition 1: Group AAC experience
 - 5-8 students
 - Condition 2: One-on-one AAC experience
 - 5 individual students
 - Condition 3: Non-AAC group control activity
 - 5+ students
 - Non-AAC technology activity

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Procedures



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Instrument Procedures

- Completed on Qualtrics (2005) on iPad
- All items read aloud to the children
- WTC items presented with corresponding image
 - Referenced at each item

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Instruments: Motivation

6 items based on Bandura (1986)

- Value of communication and drive to actually communicate
- Sliding scale 0-100 measurement (McCroskey, 1992)

State the level to which you agree or disagree with the following statements with 0 being strongly disagree and 100 being strongly agree.

0 10 20 30 40 50 60 70 80 90 100

I want to communicate every chance I get

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Instruments: Attitude toward AAC

12 items adapted from SLP perspectives on AAC abandonment survey (Johnson et al., 2006)

- Inquires child's attitude toward learning about and using computer-based AAC
- Affective, behavioral, and cognitive items
- Sliding scale of 0-100 (McCroskey, 1992)

State the level to which you agree or disagree with the following statements with 0 being strongly disagree and 100 being strongly agree.

0 10 20 30 40 50 60 70 80 90 100

This will help me talk with other kids

Instruments: Willingness to Communicate

18 total items based on scales used by MacIntyre et al. (2001), Ryan (2009), and Yashima (2009)

- 3 situations presented with corresponding images
 - In class with everyone else using AAC
 - In class with no one else using AAC
 - Out of class no one else using AAC
- Sliding scale of 0-100 (McCroskey, 1992)

In your class, you are the only one using this. No one else, just you.

On a scale of 0 to 100 with 0 being not willing at all and 100 being very willing, how willing are you to:

0 10 20 30 40 50 60 70 80 90 100

Use this tablet to talk in front of your class

WTC Instrument Images



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Group and One-on-One Intervention

- Activities based on second-language classrooms (Curtain & Dahlberg, 2016)
- Students provided with consistent models on device
- All communication expected to be in target language (using AAC)

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Group and One-on-One Intervention



Session 1

Demographics/Pre-test

Greetings

Simon says



Session 2

Greetings

Restaurant interactions

Post-test

➤ Each session lasting approximately 30 minutes

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AAC Device used in Group and One-on-One Sessions

- Proloquo2Go (AssistiveWare, 2009)
- Core Vocabulary
 - Based on Vocabulary for Preschool, School Children (University of Nebraska-Lincoln Augmentative and Alternative Communication, 2019)
- Activity-based vocabulary
 - Actions and descriptors
 - Breakfast vocabulary

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Control Group



Session 1

Demographics/Pre-test

GoNoodle Educational Activity



Session 2

GoNoodle Educational Activity

Post-test

➤ Each session lasting approximately 30 minutes

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Data Analysis

Psychometric Measures of the Instruments

- Face validity via expert-driven review of instruments
- Pilot with children
- Test-retest reliability via Cronbach's Alpha

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Data Analysis

Within Group Comparisons

- Mann Whitney U analyses
 - Pre/post-test comparison for each group
- Cronbach's Alpha
 - Test-retest reliability for control group

Between Group Comparisons

- Kruskal Wallis analyses
 - Pre- and post-test median comparisons between the 3 groups
 - 3 separate analyses for the 3 hypotheses
 - Motivation, attitude, and WTC

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Discussion

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Discussion

- Use of quantitative instruments with children
 - Modifications to the instrument items themselves
 - Modifications to administration of the instruments
- Methods of assessing attitude, confidence, and WTC for people who use AAC
 - SLA has also previously used behavioral methods (# of turns taken, # of words used, etc.)

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Discussion

- Next directions for intervention
 - Other methods to pilot with children who do not use AAC regularly?
 - Modifications to current intervention methods/suggestions for inclusion of children who use AAC

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