Project Core: An Implementation Model for Building Early Symbolic Communication

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Project Core Overview

- Develop a comprehensive implementation program for the delivery of the multi-tiered system for augmenting language (mSAL).

Distribute through Project Core website

Develop implementation tools and training resources for effective use

Refine student communication supports

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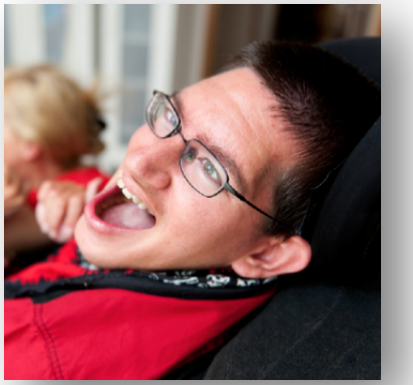
Defining the Need: Students

- Survey representing large sample of students with significant cognitive disabilities (*n*=38,038)
- 23% used aided AAC or sign language
  - 70% of aided AAC users and 84% of sign language users used only single symbols or signs for a restricted range of purposes.
- 9% were reported to have no symbolic system of communication
  - 45% used conventional gestures, 15% used unconventional gestures, 40% used reflexive, rather than intentional behaviors



Erickson & Geist (2016)

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Defining the Need: SLPs

- Based on ASHA (2016), SLP caseloads:
  - 31 students in separate settings
  - 50 students in general education settings
  - Across settings average 23.2 hours per week on direct intervention
- Level of student need not always related to intensity of service (Brandel & Loeb, 2011)

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Beliefs About Students

All individuals, regardless of the severity of their disability, have the basic right to ongoing instruction that will help them develop versatile communication skills.

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Beliefs About Teachers

Teachers have the ability to acquire the knowledge, skills, and dispositions needed to help students with significant cognitive disabilities acquire versatile communication skills using a core vocabulary approach.

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Intended Outcomes

1. Improvements in student communication abilities and academic achievement.

2. Increases in frequency and quality of teacher use of Universal Core vocabulary and other elements of the multi-tiered system for augmenting language (mSAL).

3. Availability of a comprehensive implementation model to support mSAL use.

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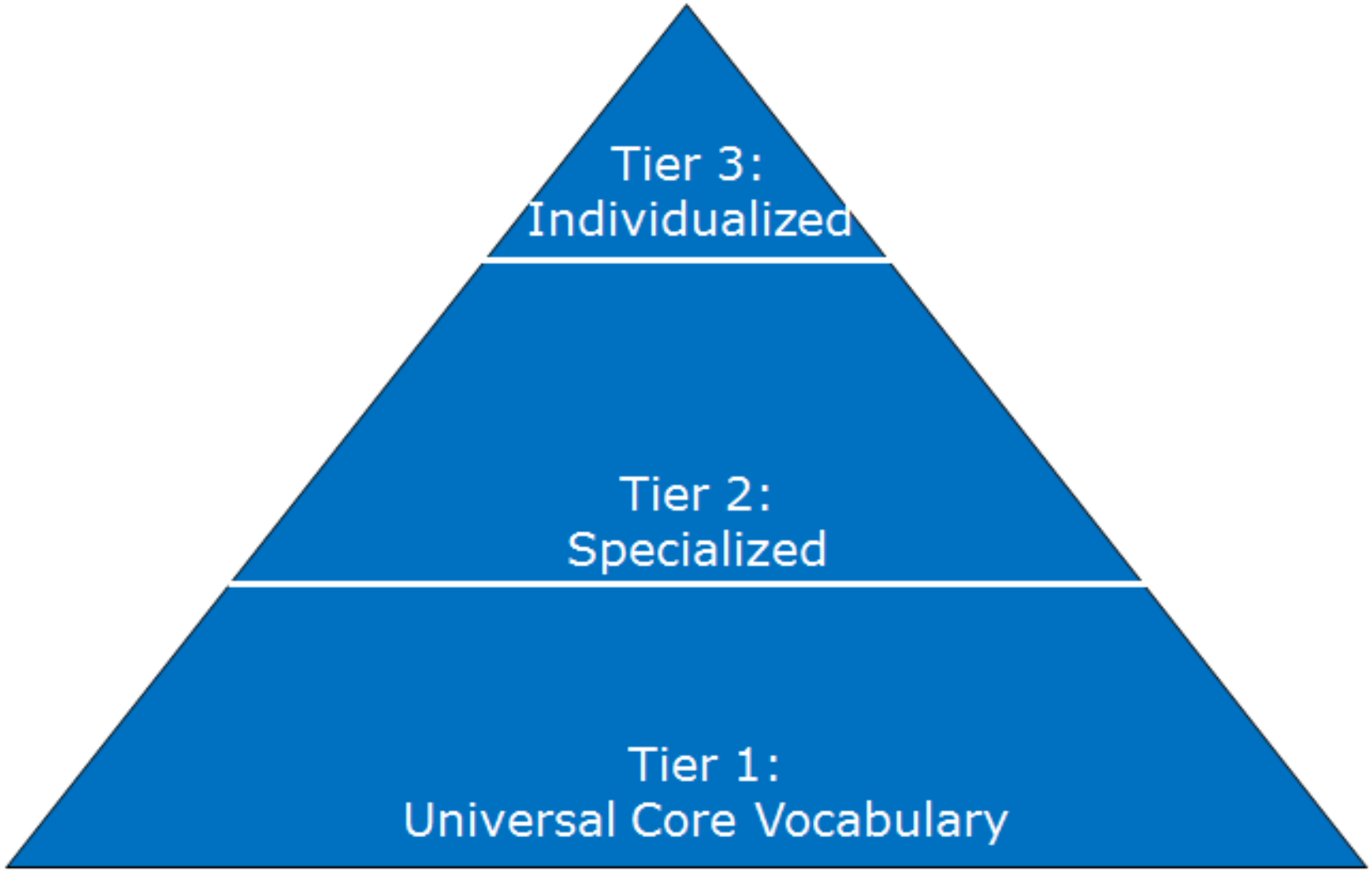
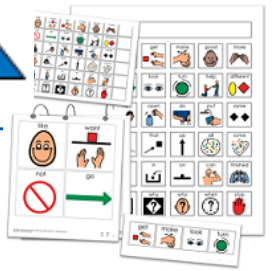
Multi-Tiered System for Augmenting Language (mSAL)





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Multi-Tiered System for Augmenting Language (mSAL)

Elements of each Tier:

- a well-organized, core-based, AAC system
- use of natural everyday routines, interactions, and environments for teaching
- models of symbol use by partners
- focus on attributing meaning to all behaviors

Informed by Mary Ann Romski and Rose Sevcik's System for Augmenting Language (SAL) (1996)

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mSAL Tiers

Tier I – Universal communication solution delivered by teachers

Tier II – Specialized solutions guided by SLPs

Tier III – Individualized solutions guided by teams with expertise in the population and communication

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What is Core Vocabulary?

- Limited set of highly useful words.

  ~85% of spoken language is comprised of 250–350 words

- Vocabulary is primarily pronouns, verbs, descriptors, and prepositions. Very few nouns.

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Why Emphasize Core?

- **MANY** opportunities to teach and model each day, all day.
- Useful across settings, topics, purposes and people.
- Specialized and personalized vocabulary provide important, but far fewer opportunities to teach and model (targeted in mSAL at Tier 2 and 3)

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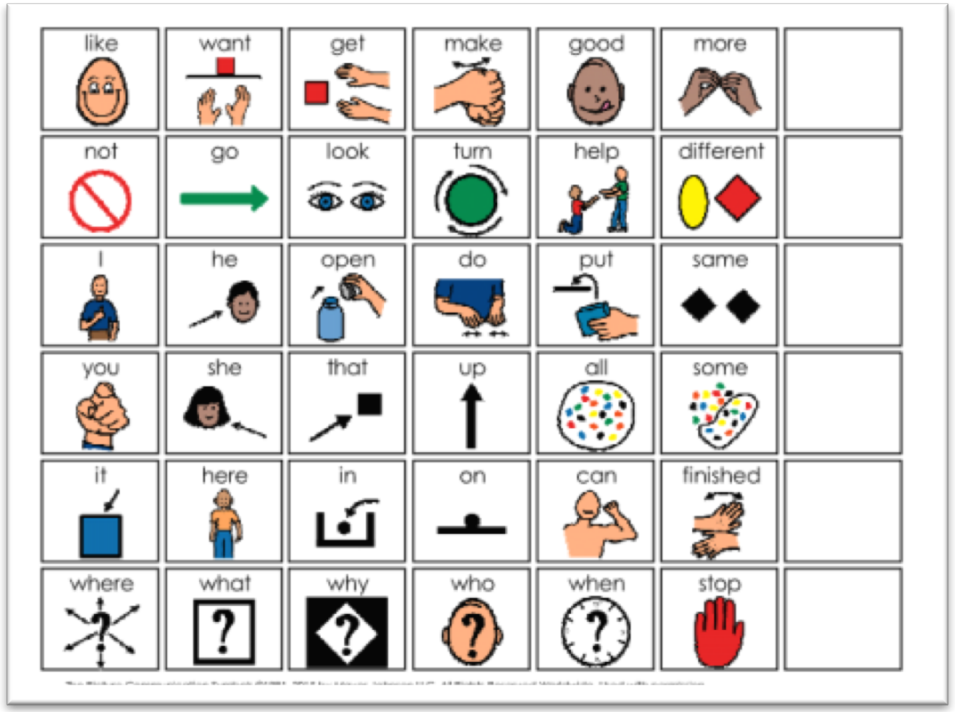
Universal Core Vocabulary

- 36 words
- Meaningful as single words
- Can be combined meaningfully
- Useful across environments, activities, and interactions



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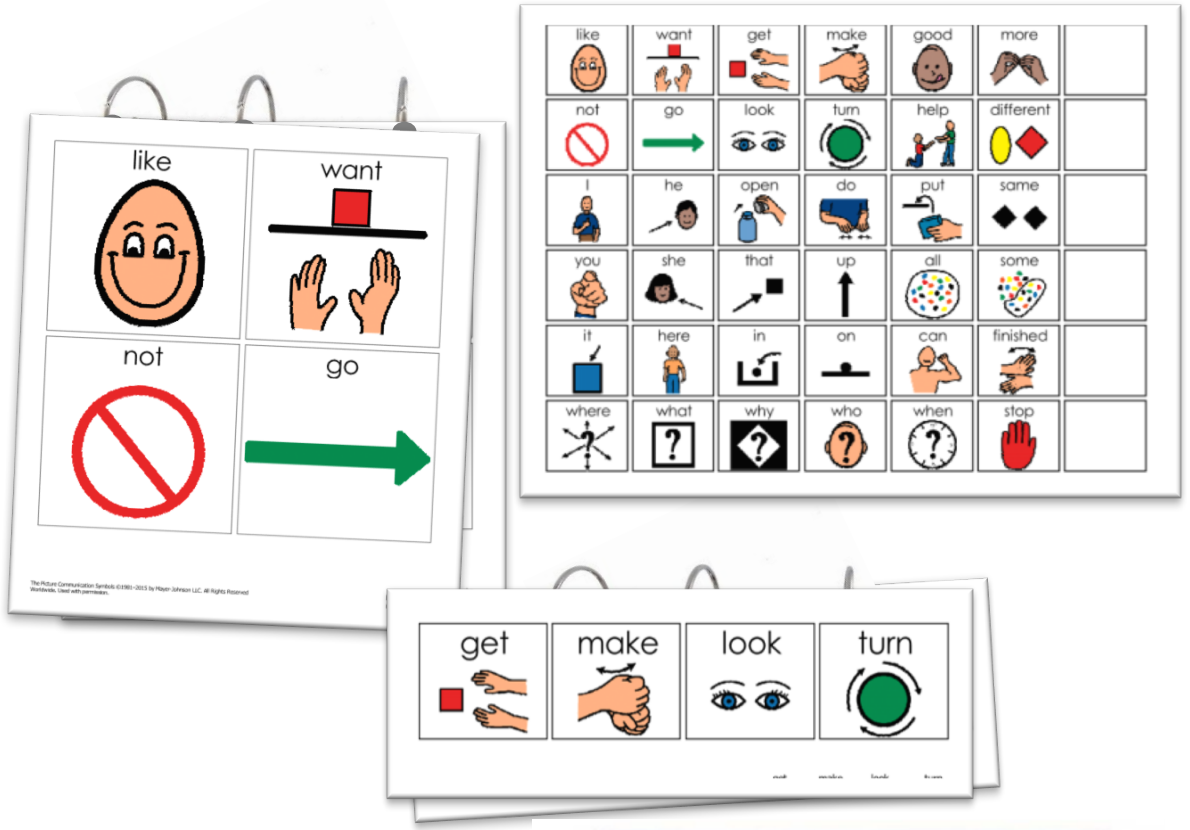
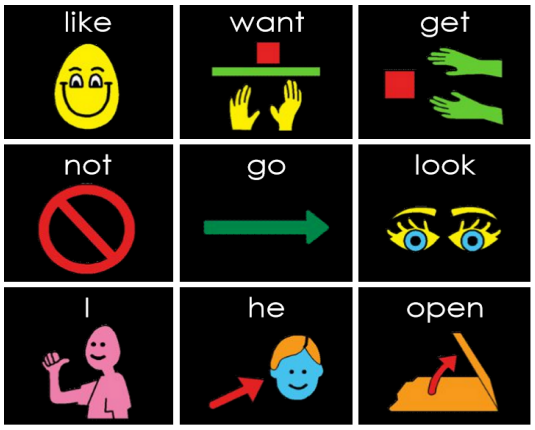
Universal Core Vocabulary Formats

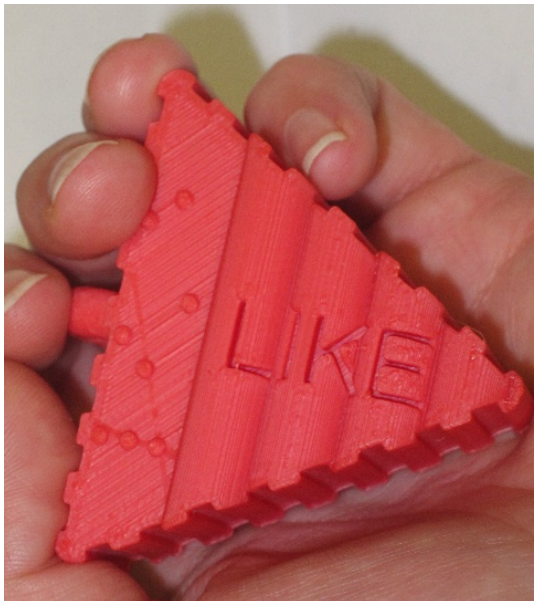
- 36 location boards
  - Individual use
  - Classroom use
- 9 location X 4 pages books
- 4 location x 9 pages books
  - 4 square (direct select)
  - 4 in-line (partner-assisted scanning)
- High contrast versions for all

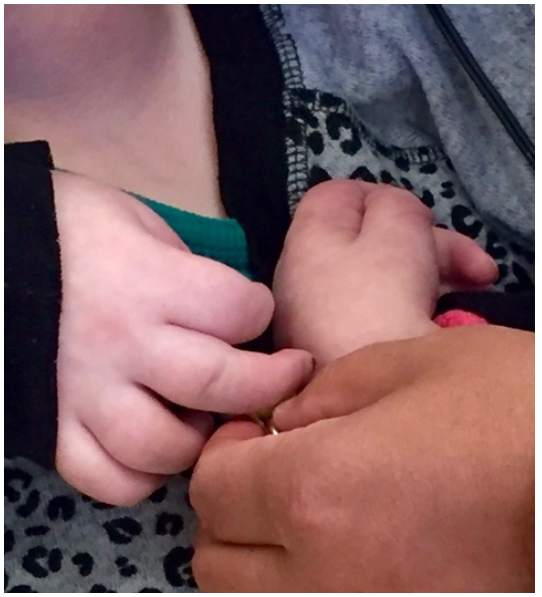




3D Symbols from Universal Core

- Represent select core words
- Offer consistency
- Each symbol includes:
  - Shape, color, and texture representing the word class
  - Unique raised element
  - Braille
  - Printed word





Benefits of Universal 3D Symbols

- Recreate near exact duplicates
- Dramatic reduction in choking hazard
- Easily create symbols in various sizes
- Begin working on conceptual understandings of language from the beginning

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Everyone communicates

Communication Matrix

by Dr. Charity Rowland of Oregon Health & Science University (original 1990, revisions in 1996 and 2004)

www.communicationmatrix.org

- Skills assessment
- Earliest stages of communication
- Any form of communication, with or without symbol use
- Basic reasons to communicate (refuse, obtain, social, information)

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Communication Ability Levels

I. Pre-Intentional

II. Intentional Behaviors

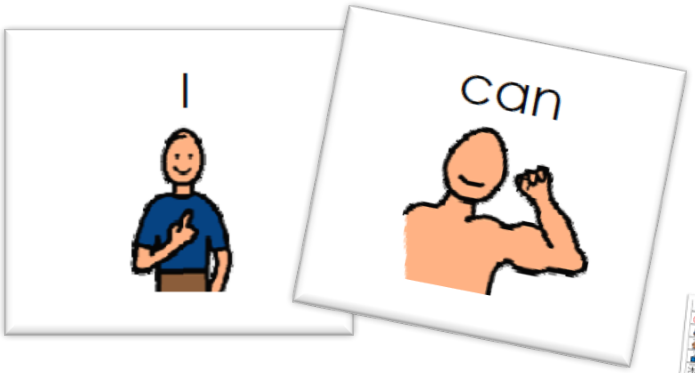
III. Unconventional Communication

IV. Conventional Communication

V. Concrete Symbols

VI. Abstract Symbols

VII. Language



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Pre-intentional to Intentional & Pre-symbolic to Symbolic

Teaching Principles

- Encourage but do not require communication.
- Have the Universal Core with you and with the student at all times.
- Be patient, provide sufficient time for students to respond, and hold your point.
- Attribute meaning whenever possible.
- Use the Universal Core to model, repeat and expand.

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Variations with 3D Symbols

- Start with Go, Like, Not
- Use them every time the student is:
  - going to move (GO)
  - expressing pleasure (LIKE)
  - expressing refusal or displeasure (NOT)
- Pair the symbol with a gesture when students cannot hear the spoken words go, like, or not.

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Maximize Opportunities: Daily Routines

- Shared Reading
- Predictable Chart Writing
- Independent Reading
- Independent Writing
- Alphabet Knowledge/Phonological Awareness
- Math
- Specials
- Vocational Ed
- Art
- Music
- Lunch
- Personal Care
- Arrival/Departure

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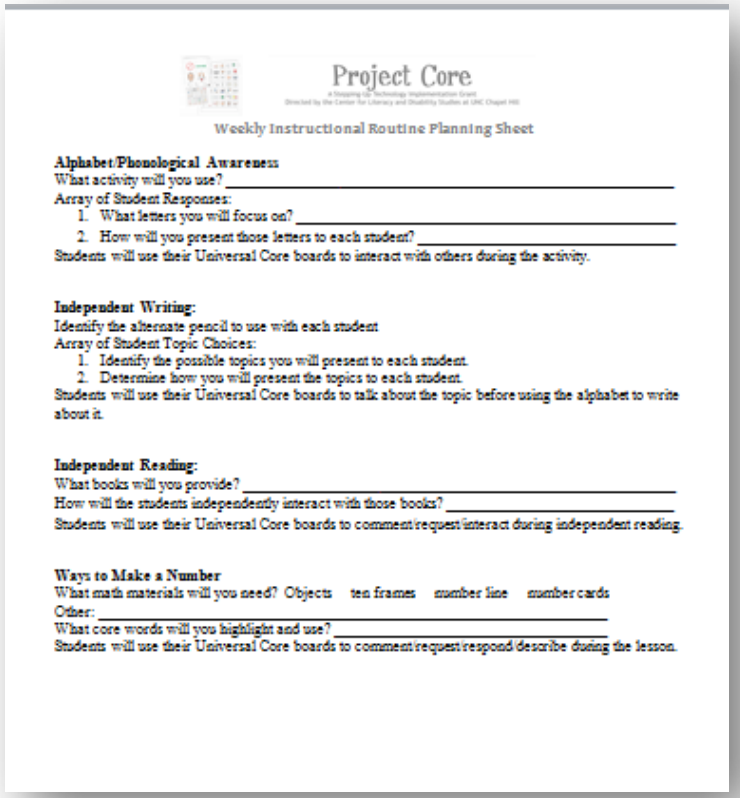
Instructional Planning Supports

- Instructional planning for 5 common instructional routines.
- Model that can be applied to other routines/lesson plans.



Project Core

Weekly Instructional Routine Planning Sheet

Alphabet/Phonological Awareness
What activity will you use? _____
Array of Student Responses:
1. What letters you will focus on? _____
2. How will you present those letters to each student? _____

Students will use their Universal Core boards to interact with others during the activity.

Independent Writing:
Identify the alternate pencil to use with each student
Array of Student Topic Choices:
1. Identify the possible topics you will present to each student.
2. Determine how you will present the topics to each student.

Students will use their Universal Core boards to talk about the topic before using the alphabet to write about it.

Independent Reading:
What books will you provide? _____
How will the students independently interact with those books? _____
Students will use their Universal Core boards to comment/request/interact during independent reading.

Ways to Make a Number
What math materials will you need? Objects ten frames number line number cards
Other: _____
What core words will you highlight and use? _____
Students will use their Universal Core boards to comment/request/respond/describe during the lesson.

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Self-Evaluation and Observation

- Guide teachers' self-assessment and reflection on use of mSAL and the Universal Core vocabulary.
- Support peer/coach/administrator observations.

Project Core

A Stepping Up Technology Implementation Grant
Directed by the Center for Literacy and Disability Studies at UNC Chapel Hill

SHARED READING SELF-EVALUATION & OBSERVATION

Reader: _____ **Other Adults:** _____

Students: _____

Book Title: _____

Date: _____ **Time:** _____ **Observer:** _____

Evidence	Yes	No	Comments
ALL students have an individual communication system that meets their access needs (e.g., Universal Core with partner-assisted scanning layout).			
Content and complexity of book is appropriate for age/grade/ability level of students.			
Before reading, the adult connects book to previously taught information or experiences.			
Core-based comments have been preplanned and are used in the lesson.			
Adults **comment** while reading using communication systems that are similar to the students' individual systems.			
Adults provide adequate wait time and **ask** or encourage students to participate page-by-page.			
Adults recognize, **respond** to, and expand on student's efforts to participate and communicate.			
The adult reads with enthusiasm in a way that fosters a joy for reading			

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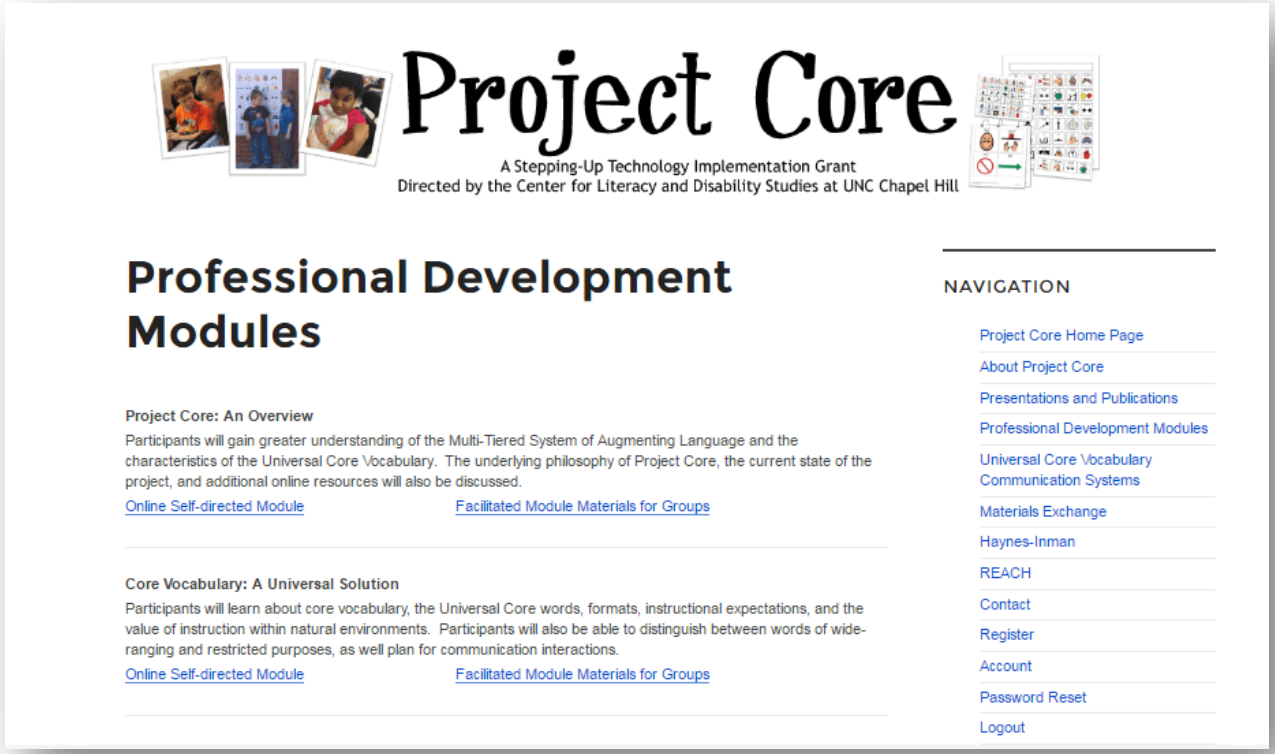
Professional Development

- Library of self-directed modules
- Materials to facilitate group sessions



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Review: Project Goal

- In collaboration with partner schools, develop, evaluate and refine tools for delivery of the multi-tiered system for augmenting language (mSAL).

- Gather data to inform design.

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Descriptive Data

Year 1 Review

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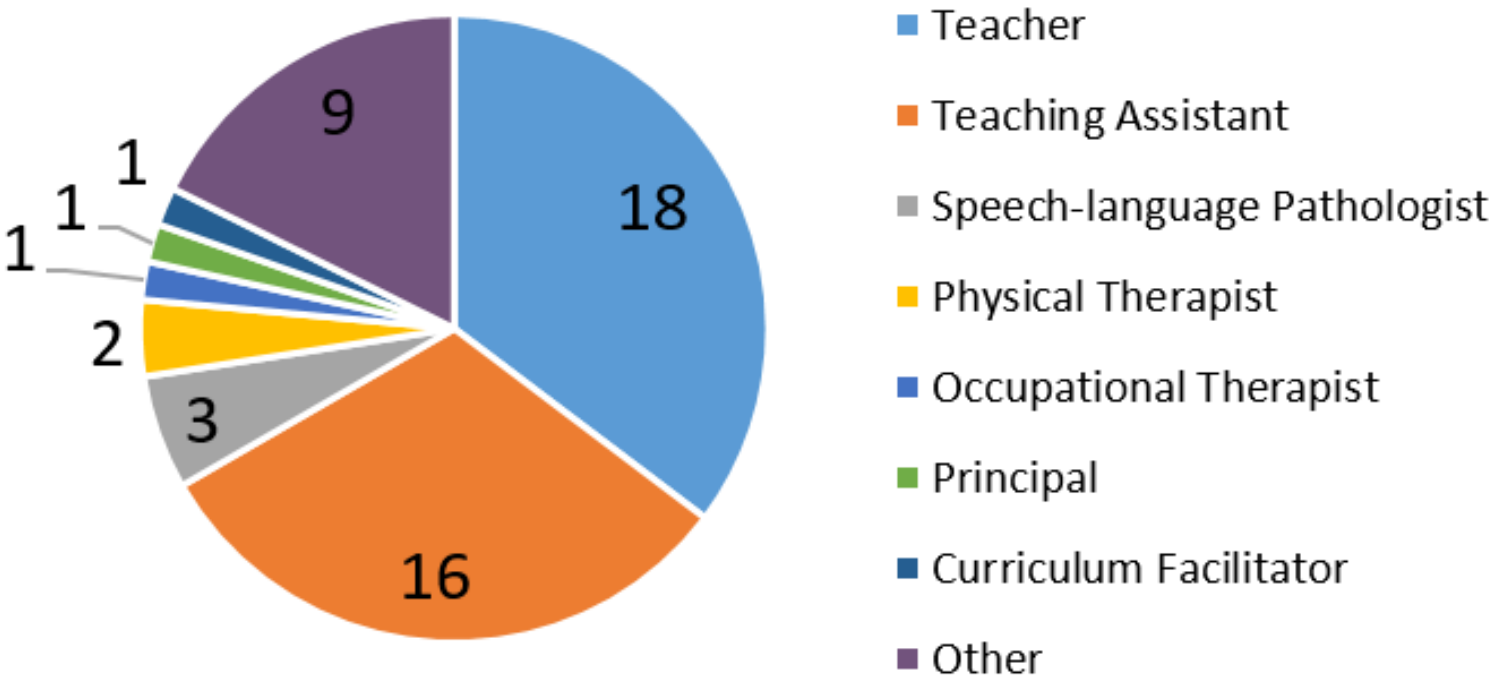
Professionals (*n*=51)



On average, participating teachers have several years of experience (*n*=16**;** *M*=13 years; *SD*=8 years)

On average, participating teaching assistants are newer to the field (*n*=11; *M*=3.5 years; *SD*=2 years)

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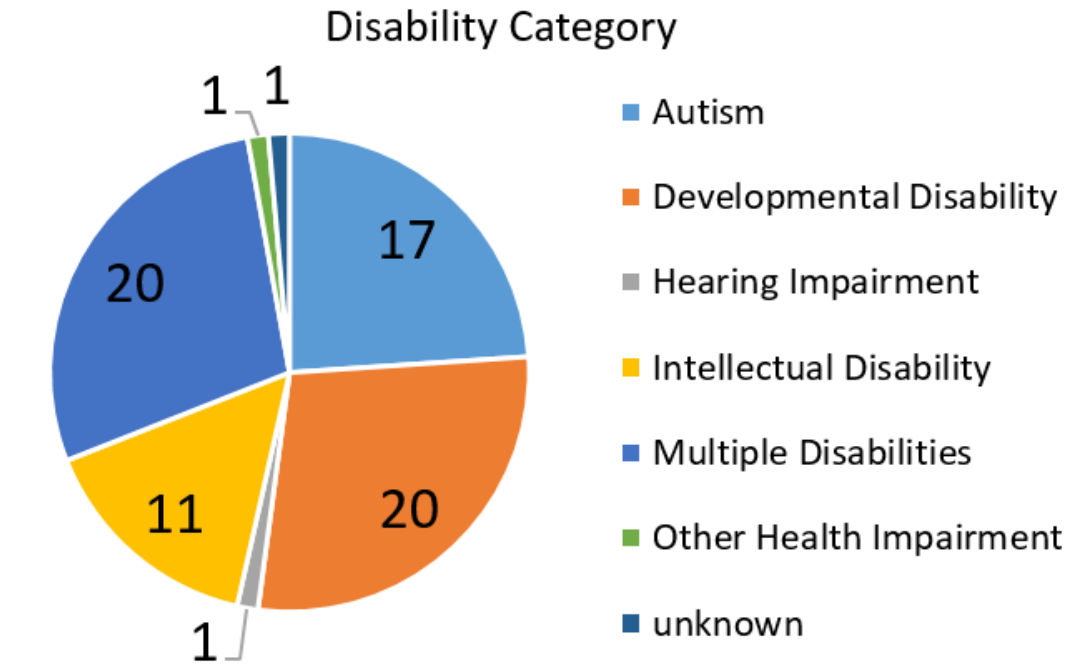
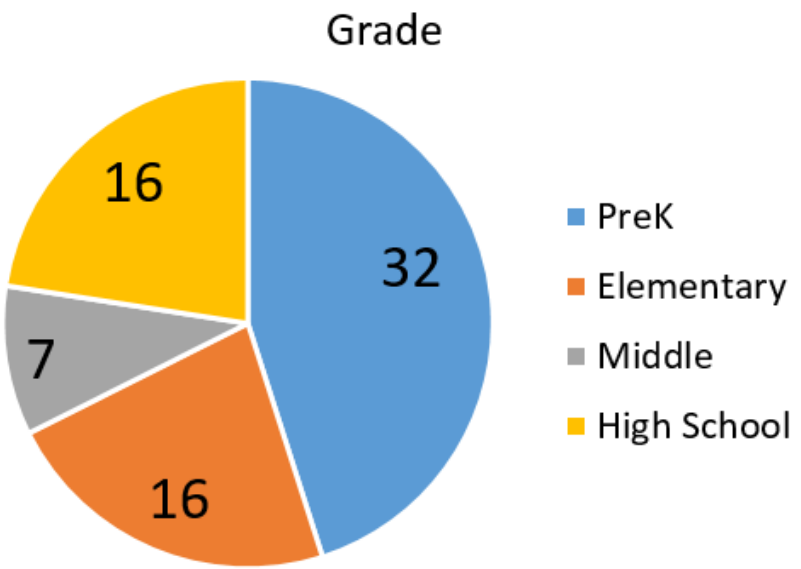
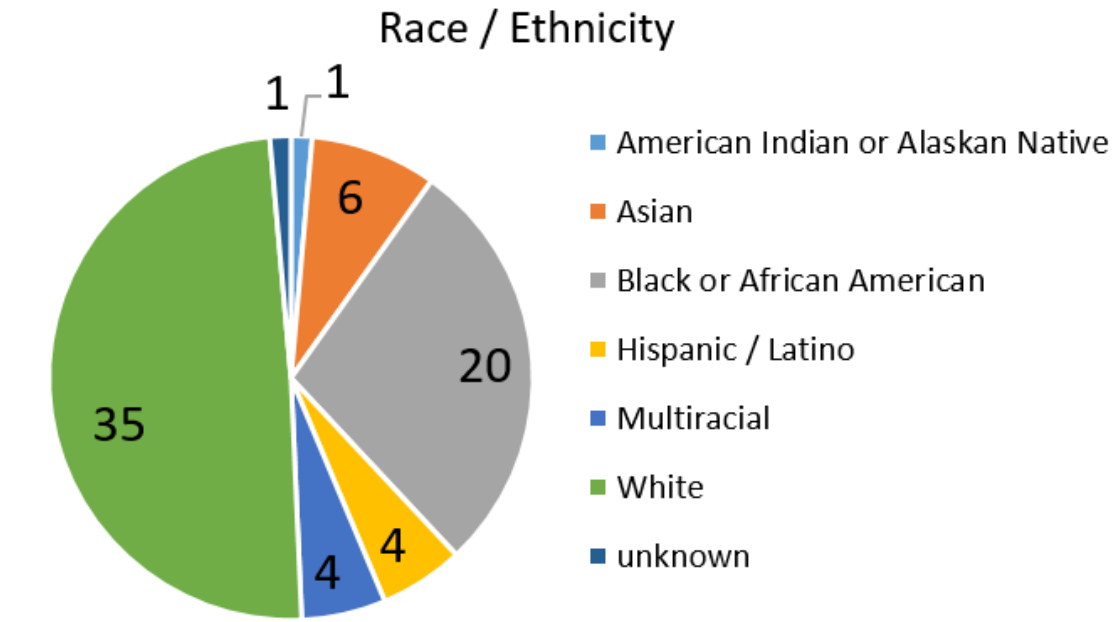
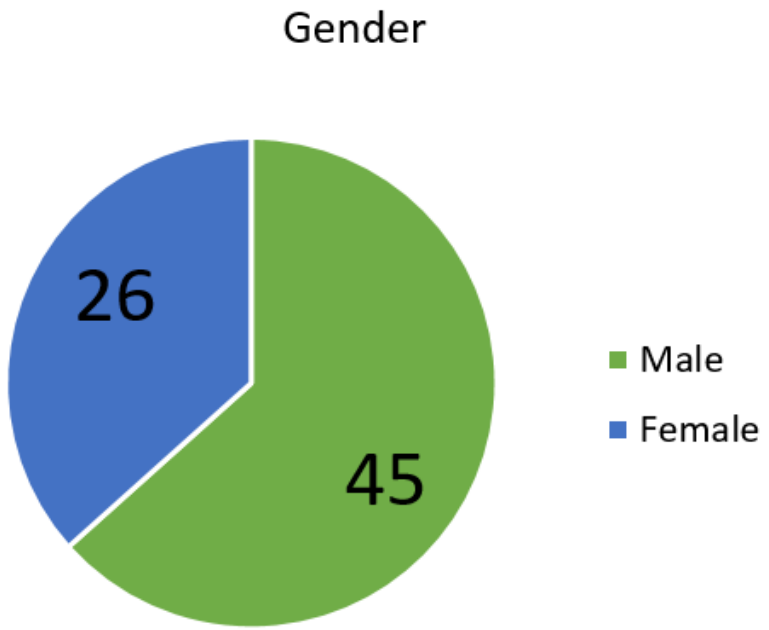
Students (*n*=71)









Communication Matrix

- Communication Ability Levels (1-7)
- 4 basic reasons for communicating
  - Refusing
  - Obtaining
  - Social connection
  - Providing or seeking information

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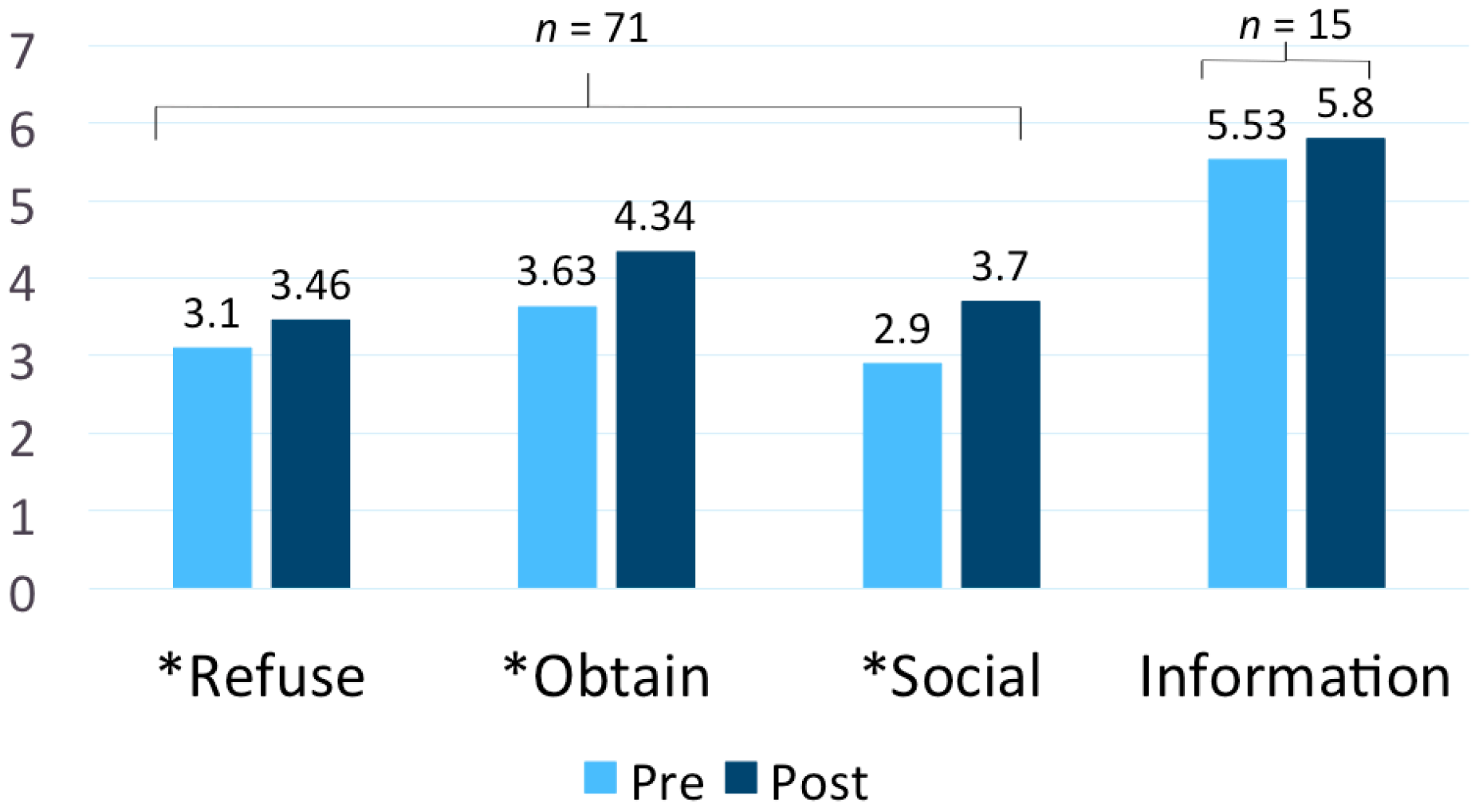
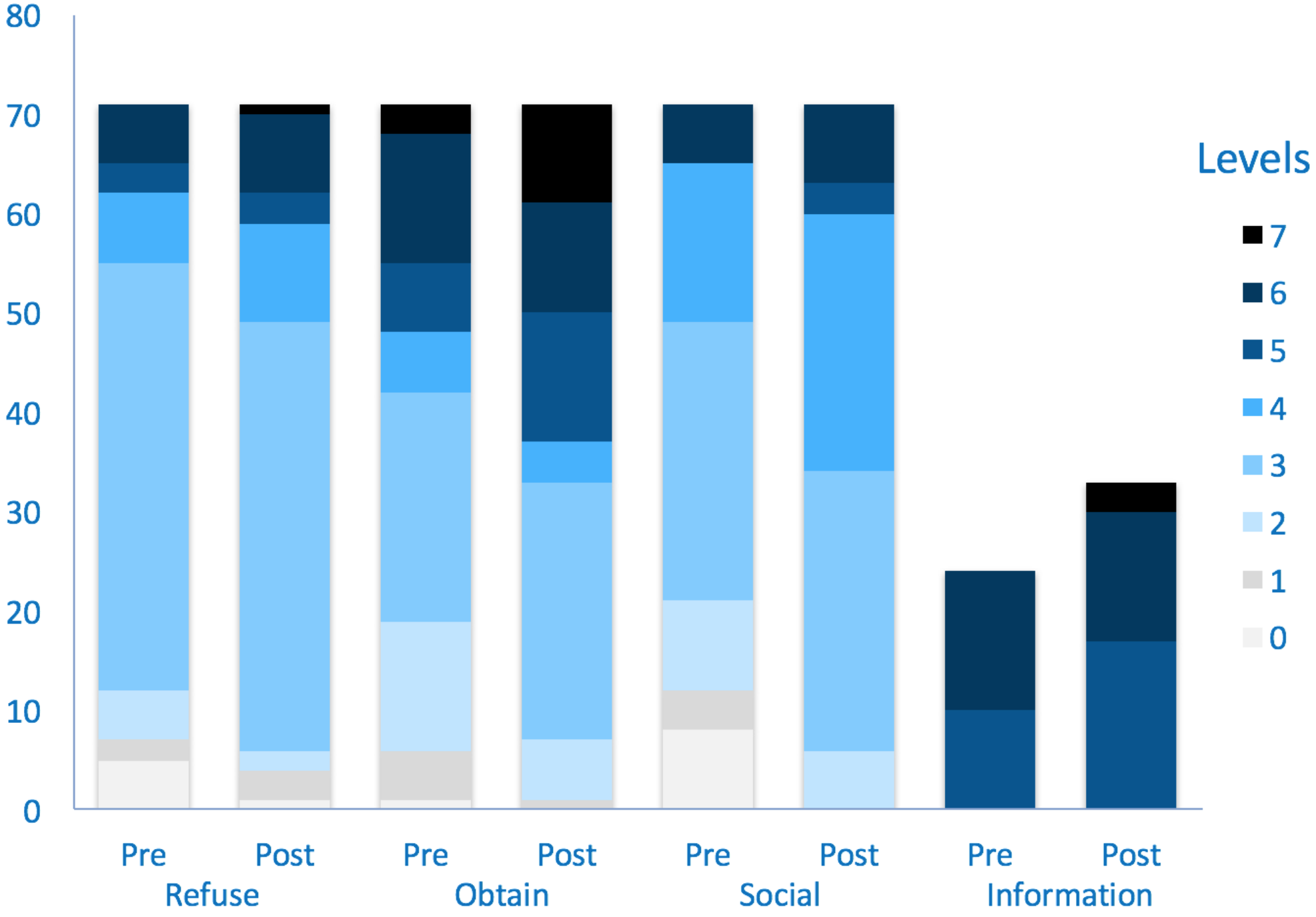
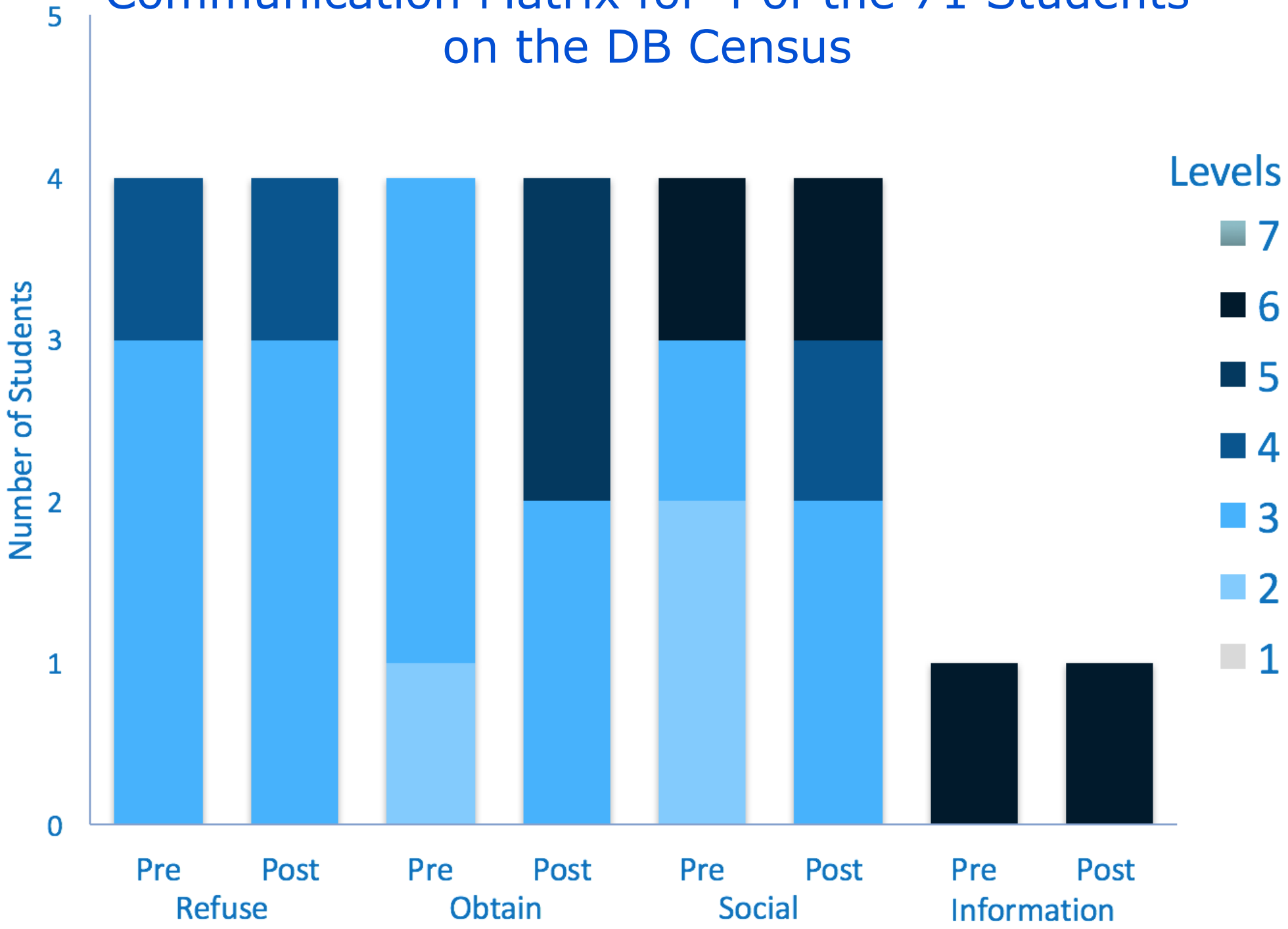
Change in Average Ability Level



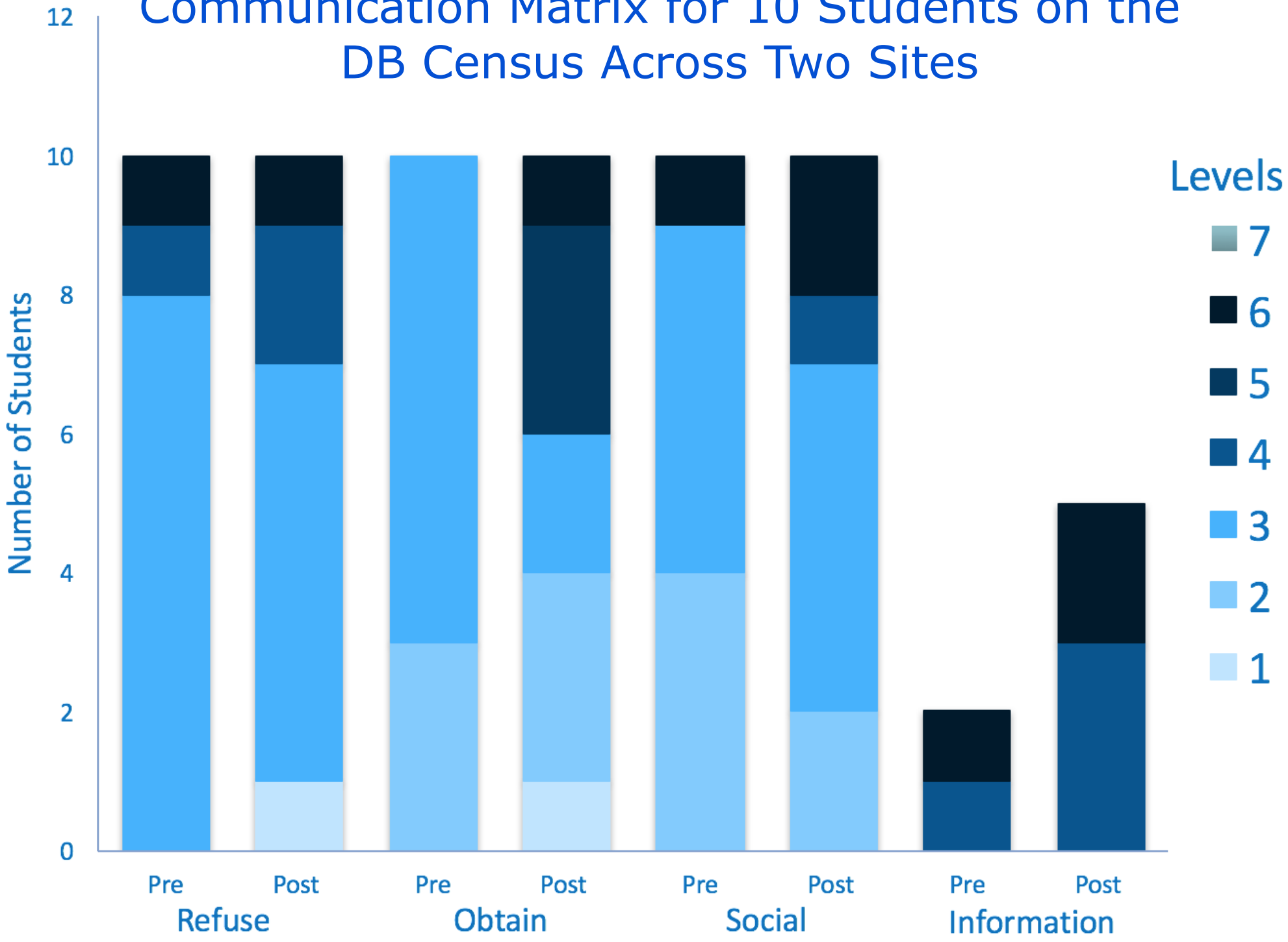
Pre to Post Change in Highest Level on the Communication Matrix for 71 Students



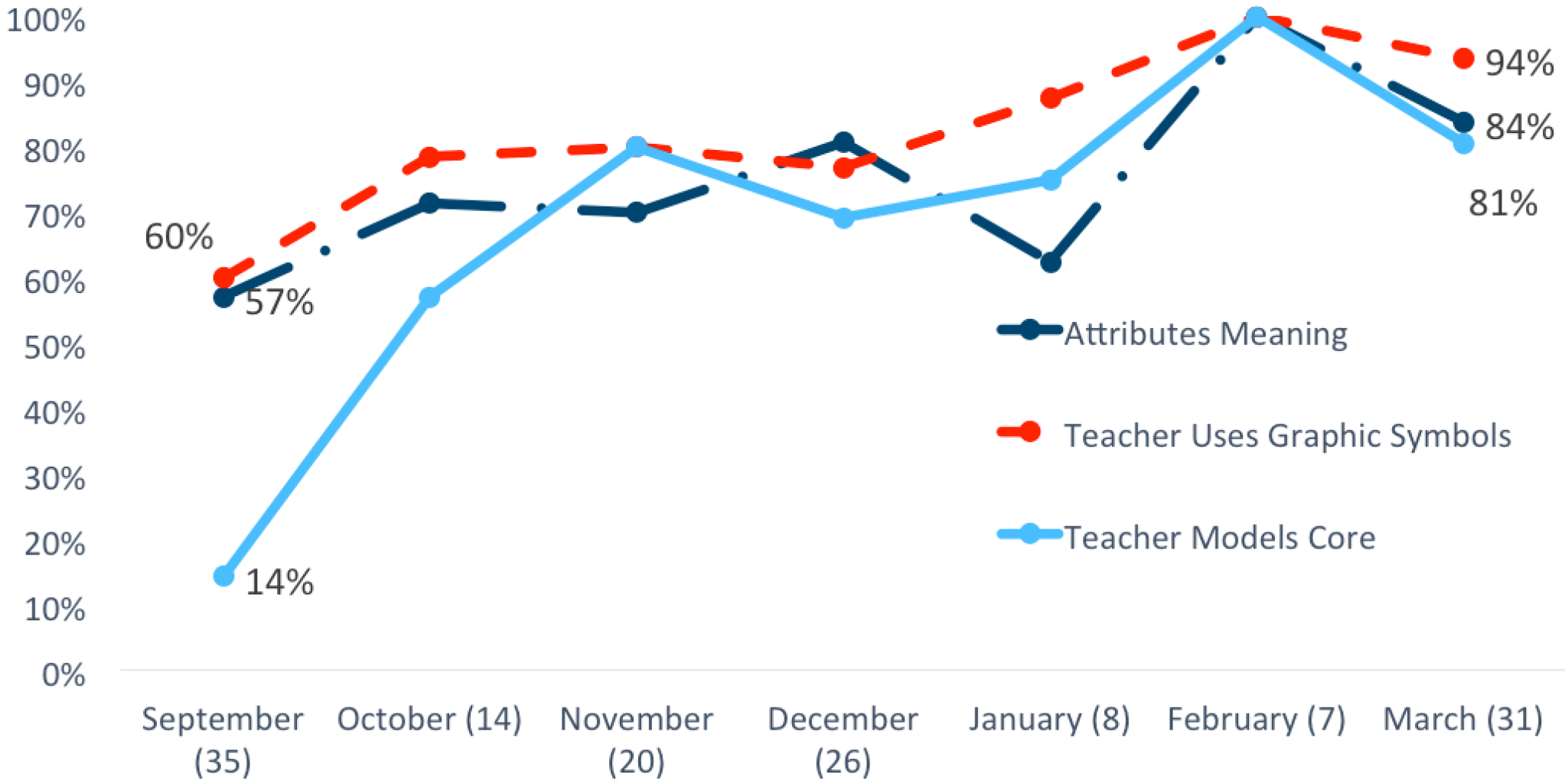
Pre to Post Change in Highest Level on the Communication Matrix for 4 of the 71 Students on the DB Census



Pre to Post Change in Highest Level on the Communication Matrix for 10 Students on the DB Census Across Two Sites

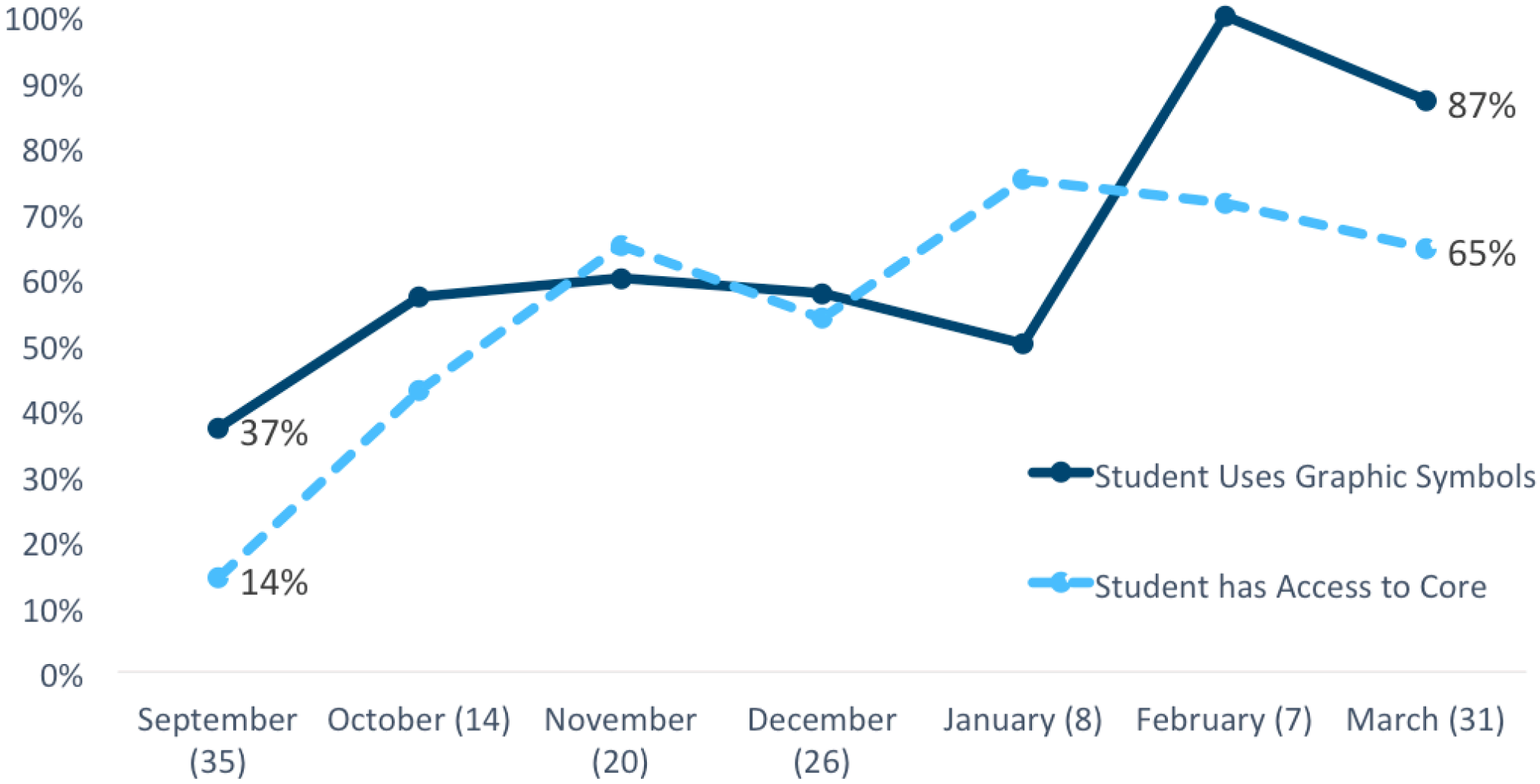


Classroom Observations: Teacher Behaviors



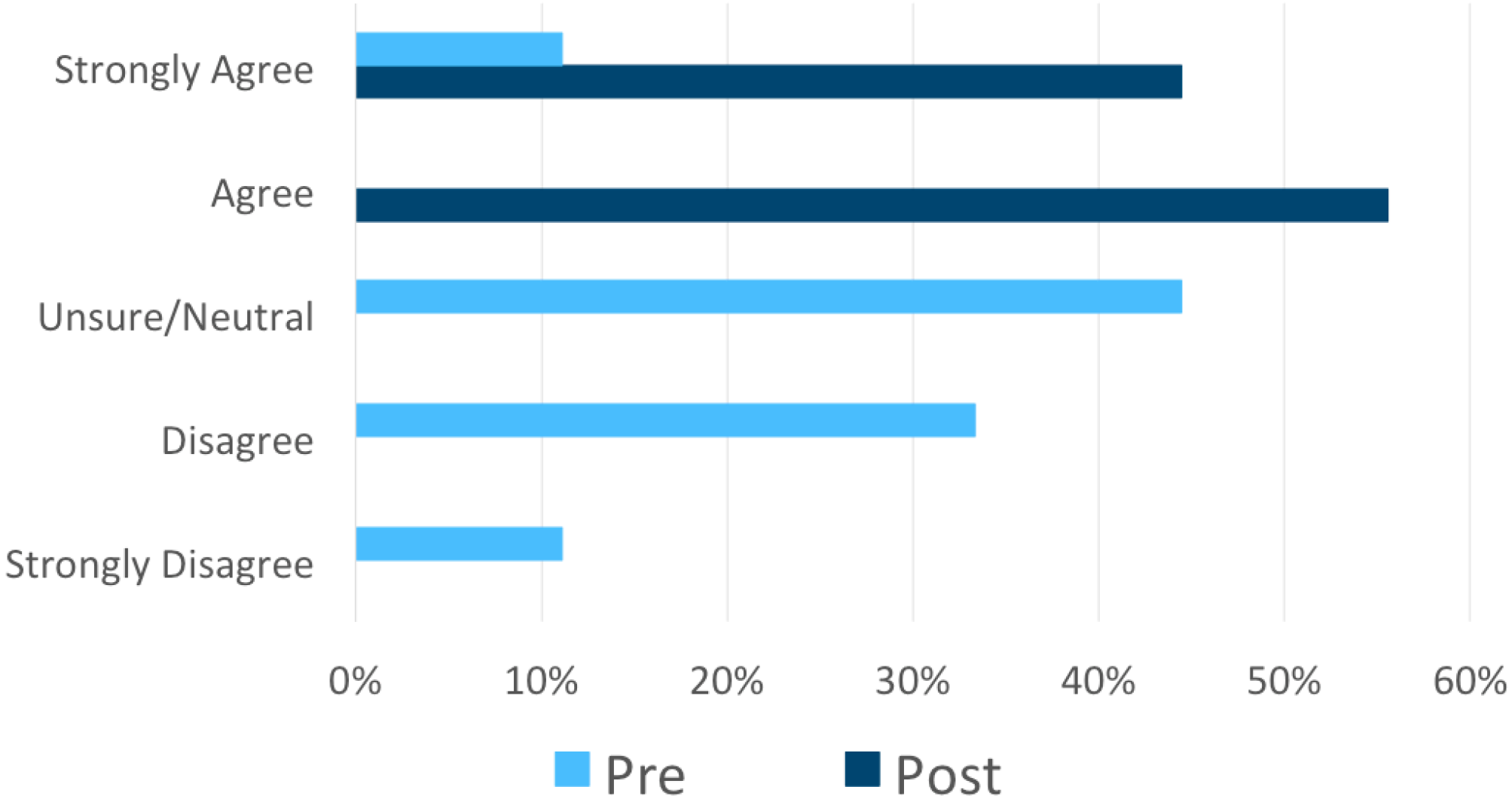
Number in parentheses is the number of observations

Classroom Observations: Student Access and Use

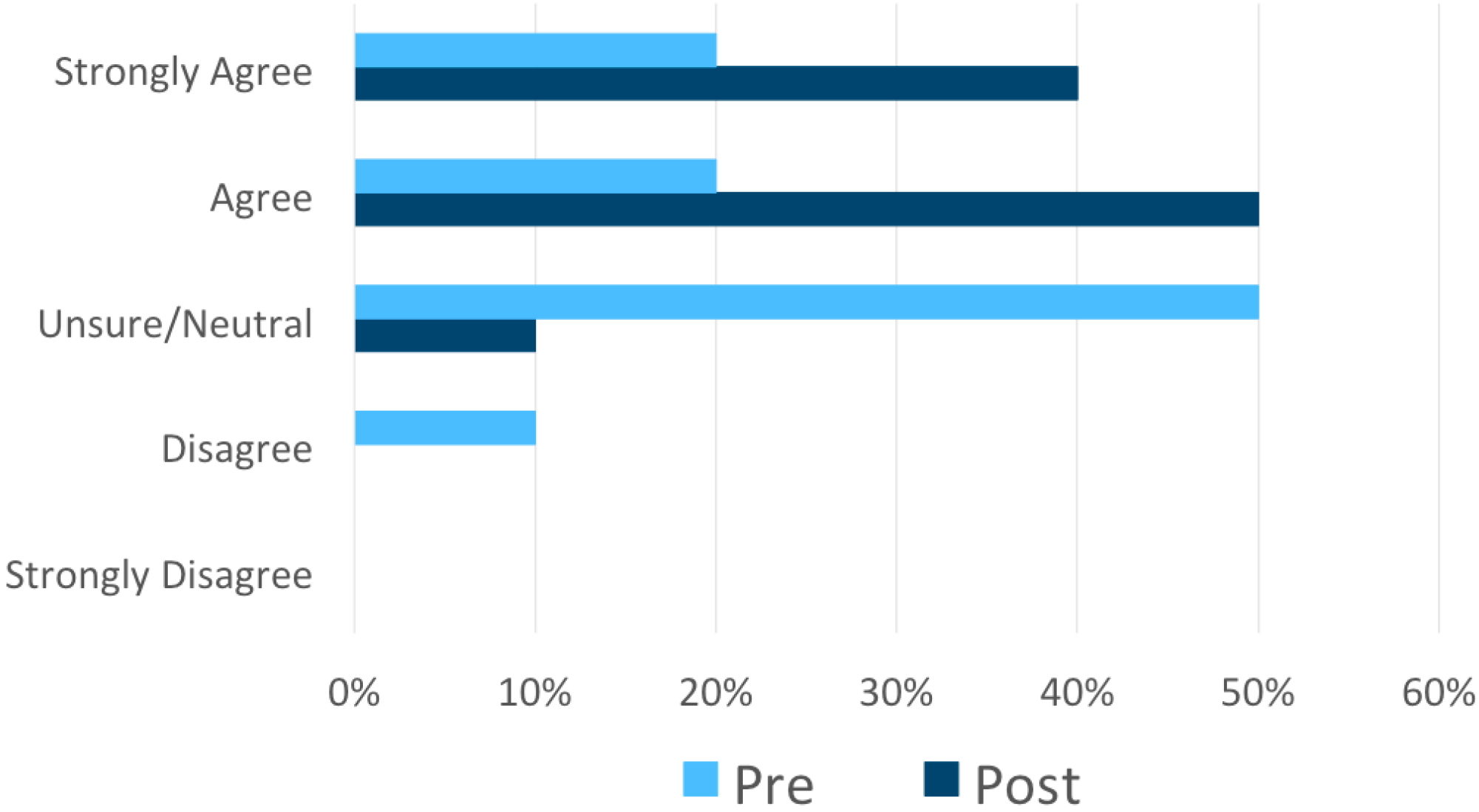


Number in parentheses is the number of observations

Teachers' self-assessment: I understand how to use a core vocabulary approach with my students who need AAC. (*n*=9)



Teachers' self-assessment: I feel comfortable and confident in my ability to use AAC with my students. (*n*=10)



Development & Dissemination Plan

1. Refine mSAL implementation model (years 2-4)

2. Scale up to 10 Dissemination Schools (year 5)

3. Build a community of practice and distribute all resources through www.project-core.com

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- Project Overview
- Universal Core vocabulary formats
- 3D symbol files
- Selection tool
- 14 Professional Development Modules
- Instructional Planning Guides & Checklists
- Conference Presentations & Publications
- Frequently Asked Questions (FAQs)

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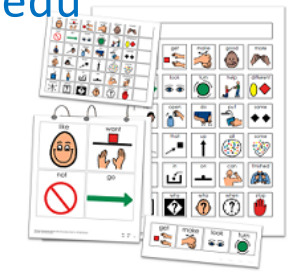

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