

Promoting Evidence-Based Practices for Preschool Children with ASD



Odom, S. & Cox, A. (2009). Promoting the Use of Evidence-Based Practices for Preschool Children with Autism Spectrum Disorders. Presentation at the 2009 OSEP National Early Childhood Conference. Arlington, VA. December 7, 2009. National Professional Development Center on Autism Spectrum Disorders, FPG Child Development Institute, The University of North Carolina at Chapel Hill.



THE NATIONAL PROFESSIONAL DEVELOPMENT CENTER ON
AUTISM SPECTRUM DISORDERS



Objectives for Presentation

Participants attending this session will be able to:

- explain how the NPDC on ASD addresses its goals,
- discuss the use of the APERS for identifying quality indicators of programs for students with ASD,
- identify practices for which there is evidence of efficacy for young children with ASD
- discuss how evidence-based practices are selected to address the goals of young children with ASD.





Who are we?



THE NATIONAL PROFESSIONAL DEVELOPMENT CENTER ON
AUTISM SPECTRUM DISORDERS

National Professional Development Center on Autism Spectrum Disorders



**A multi-university
center to promote
use of evidence-
based practice for
children and
adolescents with
autism spectrum
disorders**



THE NATIONAL PROFESSIONAL DEVELOPMENT CENTER ON
AUTISM SPECTRUM DISORDERS

Collaborative Sites

- FPG Child Development Institute, University of North Carolina at Chapel Hill
- M.I.N.D. Institute, University of California at Davis Medical Center
- Waisman Center, University of Wisconsin at Madison



Goals of the National Center?

- Promote development, learning, and achievement of children with ASD and support families through use of evidence-based practices
- Increase state capacity to implement evidence-based practices
- Increase the number of highly qualified personnel serving children with ASD





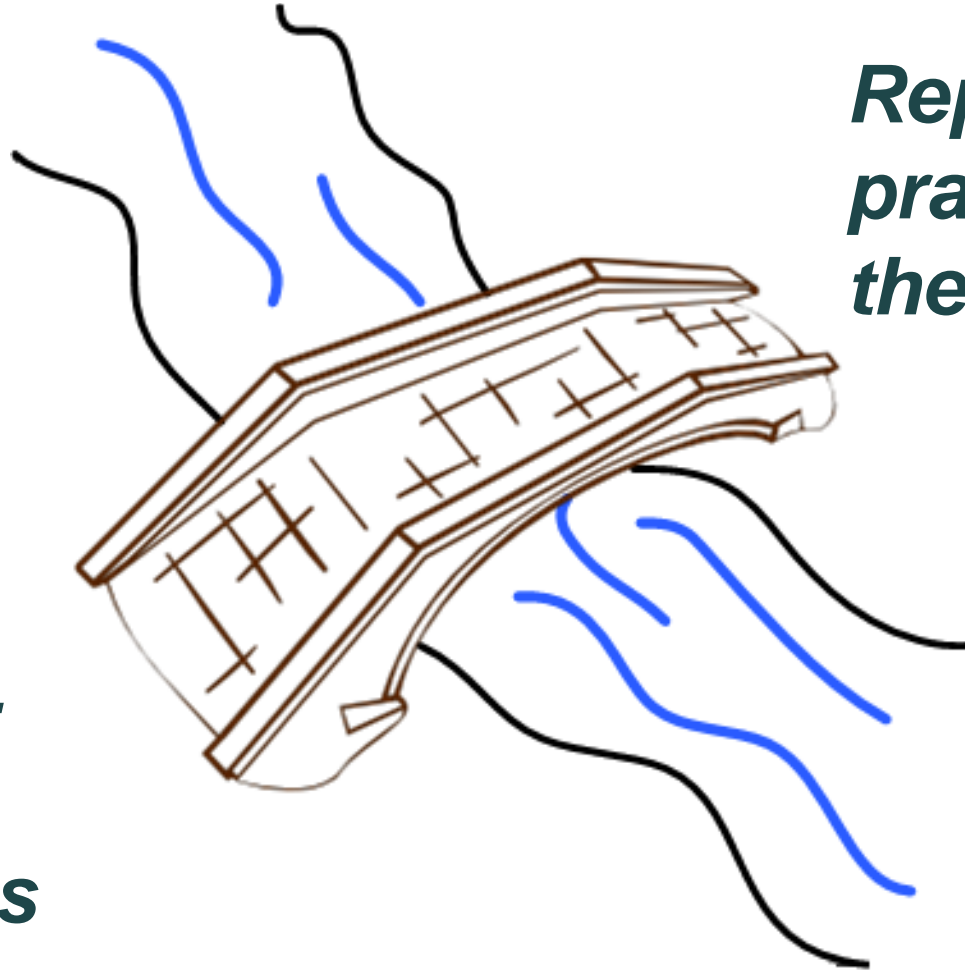
What do we do?



THE NATIONAL PROFESSIONAL DEVELOPMENT CENTER ON
AUTISM SPECTRUM DISORDERS

Bridge the Gap

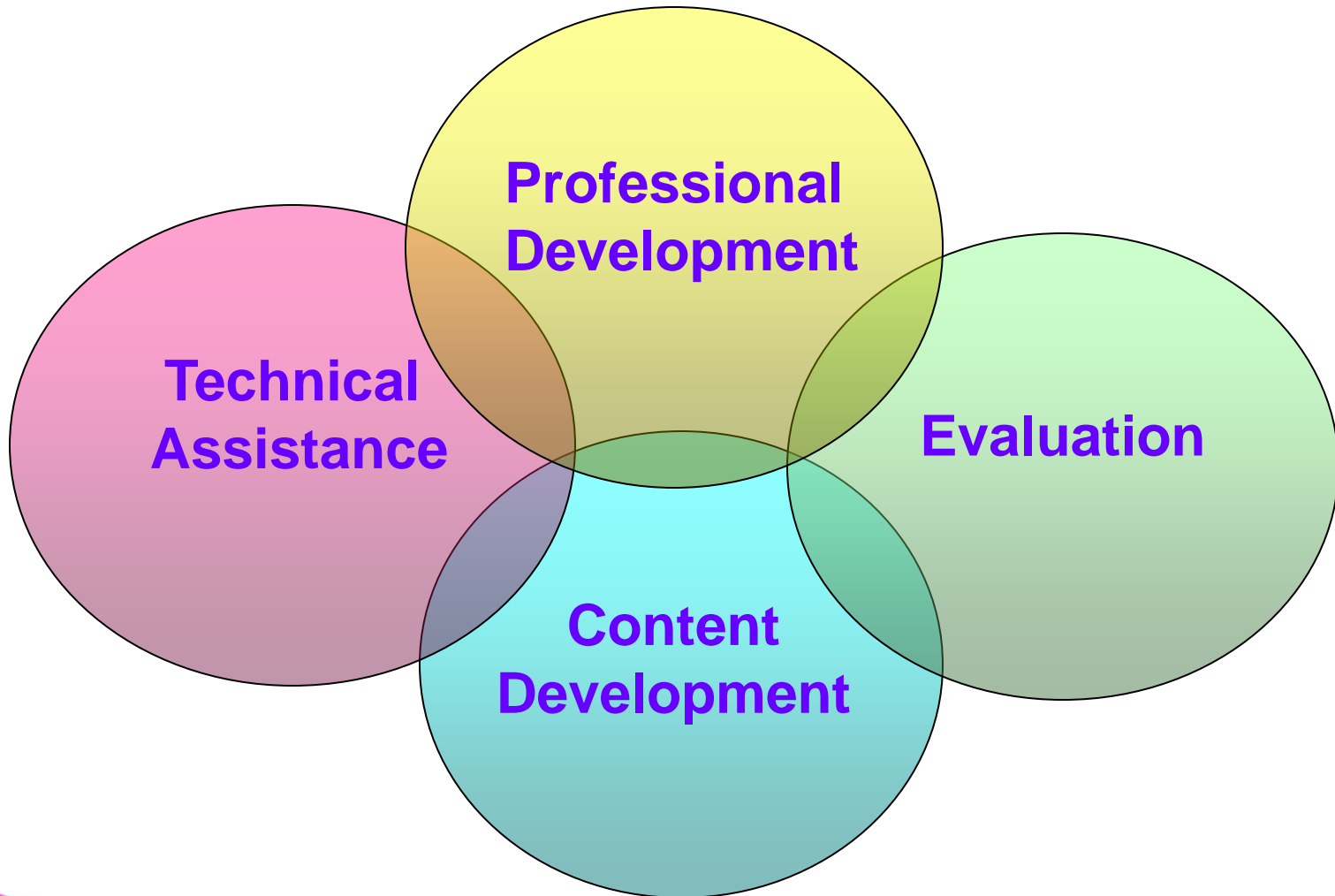
*Replicable
practices in
the classroom*

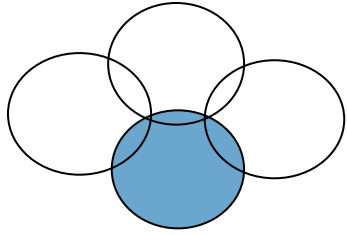


*Research-
based
practices*



Four Areas of our Work

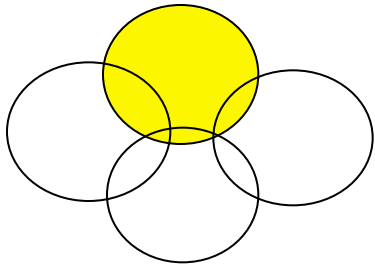




Content Development

- Identify/define criteria for evidence
- Identify evidence-based practices
- Develop online introductory course on ASD
- Develop briefs/modules on evidence-based practices
- Develop content of summer institute





Professional Development

- Offer online foundational course
- Conduct intensive 5-day training institute
- Use briefs/modules on evidence-based practices for training
- Provide training/coaching on implementation of evidence-based practices
- Make modules and briefs available for the public online through OCALI and on NPDC website



Evidence-Based Practice Briefs

Briefs consist of:

- Overview of Practice
- Evidence-base for Practice
- Steps for Implementation
- Implementation Checklist
- Data Collection Forms



Sample Implementation Checklist

Implementation Checklist for Naturalistic Intervention

	Observation	1	2	3	4	5	6	7	8
	Date								
	Observer's Initials								
Step 1. Identifying a Target Act	Score**								
1. Teachers/practitioners select a specific target act/skill to be the focus of intervention that:									
a. focuses on prelinguistic or linguistic communication and/or									
b. social skills.									
2. Teachers/practitioners confirm that the target act is in the learner's IEP or IFSP.									
Step 2. Collecting Baseline Data	Score**								
1. Prior to intervention, teachers/ practitioners determine the learner's current use of the target skill.									
2. Teachers/practitioners take data on the target skills a minimum of three times in more than one environment.									

****Scoring Key:** 2 = implemented; 1 = partially implemented; 0 = did not implement; NA = not applicable



Evidence-Based Practice Online Modules

- Includes downloadable EBP brief components
- Pre/ Post knowledge assessment
- Content on practice with video examples of practice being implemented
- Case study examples
- Learning activities, Discussion questions



Autism Internet Modules

www.autisminternetmodules.org



AUTISM INTERNET MODULES

[SIGN UP](#)
[ABOUT AIM](#)
[MODULE LIST](#)
[FORGOT PASSWORD?](#)
[HELP](#)

LOGIN
EMAIL

PASSWORD

[\[Forget password? \]](#)
[\[Create an account \]](#)

WELCOME TO AIM

HIGHLIGHTED MODULES

**PEER-MEDIATED INSTRUCTION AND INTERVENTION (PMI) FOR CHILDREN WITH AUTISM SPECTRUM DISORDERS**
Social impairment and difficulty with social reciprocity – or understanding the back-and-forth nature of social interactions – is perhaps the single most defining feature of autism. Peer-mediated instructional approaches can address social concerns by teaching children and youth with ASD new social skills and increasing social opportunities within natural environments, often a primary goal of families. This module will explain **peer-mediated instruction and intervention** and provide concrete examples and steps for implementation.

**STRUCTURED WORK SYSTEMS AND ACTIVITY ORGANIZATION**
Individuals with autism spectrum disorders (ASD) thrive in well-organized situations. Environments that provide clear expectations and predictable routines promote increased engagement and on-task behavior. Creating such environments often involves the use of individual work systems. This module will define individual work systems, offer strategies for developing such systems, and discuss how these systems might be used at home, school, work, and in the community.

[\[View all modules \]](#)

AIM COLLABORATING PARTNERS


OCALI | Educational Service Center of Central Ohio


THE NATIONAL PROFESSIONAL DEVELOPMENT CENTER ON
AUTISM SPECTRUM DISORDERS





THE NATIONAL PROFESSIONAL DEVELOPMENT CENTER ON
AUTISM SPECTRUM DISORDERS

- Introduction
- Pre-Assessment
- Overview
- Learner Objectives
- What is Peer-Mediated Instruction and Intervention (PMII)?
- Who Can Use PMII and How Does it Work?
- PMII for Early Childhood: Peer Initiation Training
- Late Elementary through High School: Peer Social Networking
- Frequently Asked Questions (FAQ)
- Summary
- Evidence Base for PMII
- References and Citation
- Post-Assessment

RESOURCES

- Step-by-Step Instructions
- Implementation Checklists
- Documents
- Discussion Questions
- Activities

WHO CAN USE PMII AND HOW DOES IT WORK?

WHO CAN USE PMII?

This approach can be used by a variety of professionals including teachers, special educators, therapists, and classroom assistants in different educational and community-based environments.

WHO WOULD BENEFIT MOST FROM PMII?

PMII is most useful for children and youth with ASD who have limited communication skills, who rarely initiate or respond to social interactions with peers, and who do not appear to be benefiting from group instruction. For these learners with ASD, the persistent social initiations from peers will increase social responding, sometimes increase social initiations, and heighten their social engagement. For children and youth with ASD who have communication skills (i.e., can express their needs to adults and understand verbal instructions), social skills training groups that involve both focal children and peers may be more effective. For middle school-aged and high school-aged students with ASD, social networking groups may be more appropriate.

HOW DOES IT WORK?

Peer-mediated interventions are based on principles of behaviorism and social learning theory (Bandura, 1977). Peers are carefully and systematically taught ways of engaging children and youth with ASD in positive and extended social interactions in both teacher-directed and child-initiated activities (English et al., 1997; Odom et al., 1999; Strain & Odom, 1986). Peer-mediated interventions are beneficial for children and youth with ASD because they increase the likelihood that learners with ASD will generalize new social skills to different activities and with different peers that were not involved in the initial training and intervention (Rogers, 2000). This is particularly important given the difficulty that individuals with ASD have generalizing the use of skills to new situations and to different people.



ZOOM +

Content for this module was developed by
The National Professional Development Center On Autism Spectrum Disorders

TEXT SIZE



SEARCH GLOSSARY

PAGE KEYWORDS

Peer-mediated instruction and intervention (PMII)



Introduction

Pre-Assessment

Overview

Learner Objectives

What is Peer-Mediated Instruction and Intervention (PMII)?

Who Can Use PMII and How Does it Work?

PMII for Early Childhood: Peer Initiation Training

Steps 1 and 2

Steps 3 and 4

Step 5

Video Examples

Putting it All Together

Late Elementary through High School: Peer Social Networking

Frequently Asked Questions (FAQ)

Summary

Evidence Base for PMII

References and Citation

Post-Assessment

RESOURCES

Step-by-Step Instructions

HOME > Peer-Mediated Instruction and Intervention (PMII) for Children with Autism Spectrum Disorders > PMII for Early Childhood: Peer Initiation Training > Video Examples

VIDEO EXAMPLES

The first two videos should be viewed after completing the content for Steps 1 and 2. The first is a training session video, the second is a practice session video. The third video should be viewed after completing the content for Step 5.

MOVIE: PEER INITIATION TRAINING SESSION



[Play Movie](#) | [Stop Movie](#) | [Skip Movie Back](#) | [Skip Movie Forward](#) | [Start Movie Over](#)

MOVIE TRANSCRIPT

Adult: "What's your name?"

Sam: "Sam"

Adult: "Sam, and what is your name?"

[\[Download Movie Transcript \(PDF\) \]](#) | [\[Download Quicktime Media Player \]](#)

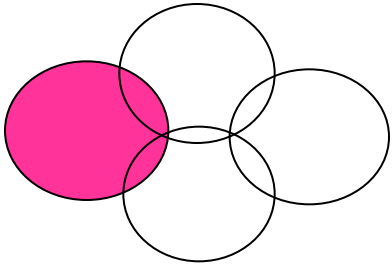
TEXT SIZE

A A A RESET ?

SEARCH GLOSSARY

GO

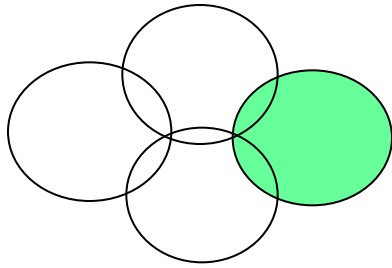




Technical Assistance

- Complete state strategic plan
- Develop model sites
- Monitor onsite training/coaching/mentoring
- Facilitate cross-state/site communication





Evaluation

- Content
- Professional development
- Technical assistance
- Outcomes
 - Child – *Goal Attainment Scaling*
 - Family – *Family Program Questionnaire*
 - Practitioner - *EBP Inventory*
 - Program - *APERS*



Working With Model Sites

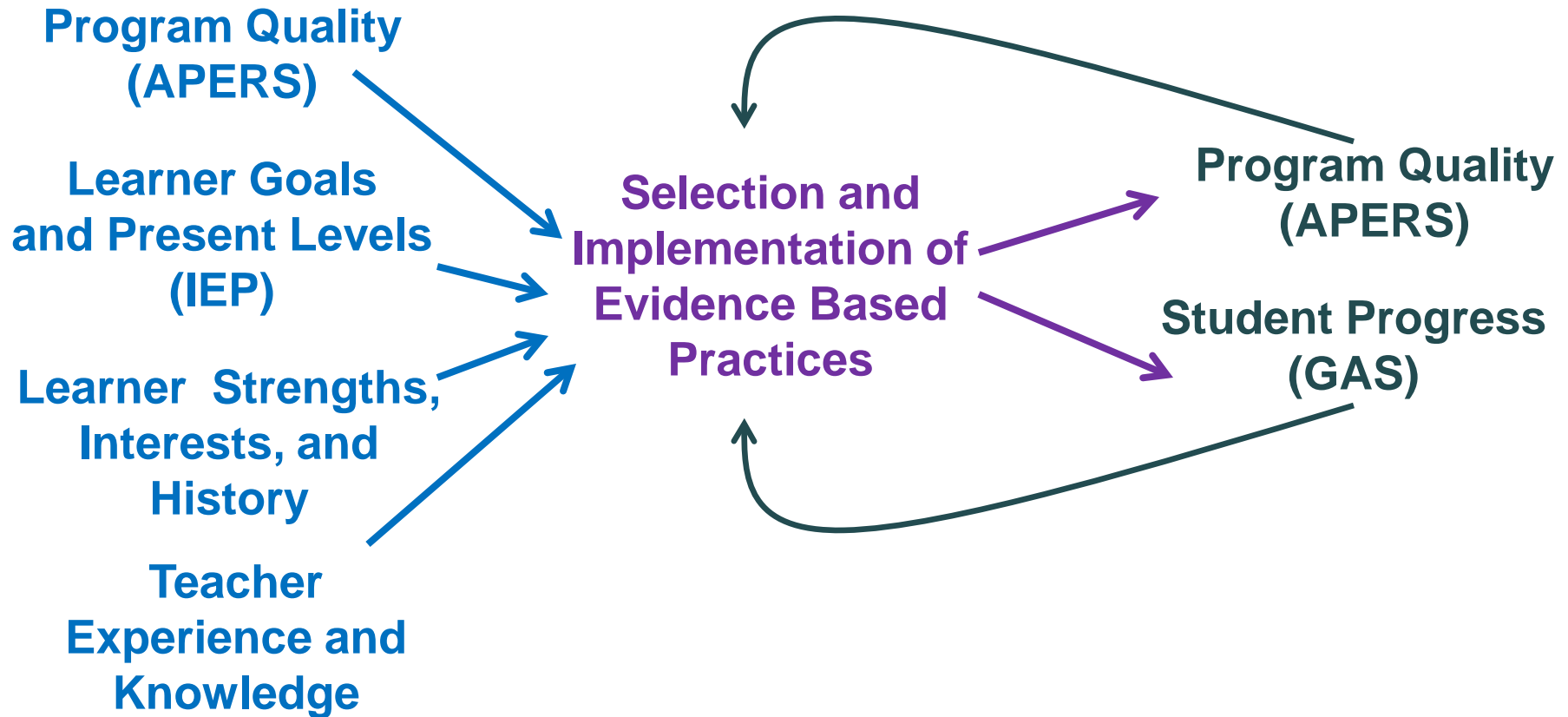


How do we Work With Model Sites?

- Assist sites document their program strengths and needs
- Tie student outcomes to IEP goals
- Select EBP based on:
 - student goals, strengths, and interests
 - history of what has worked in the past
 - teacher/staff knowledge and experience
- Monitor progress

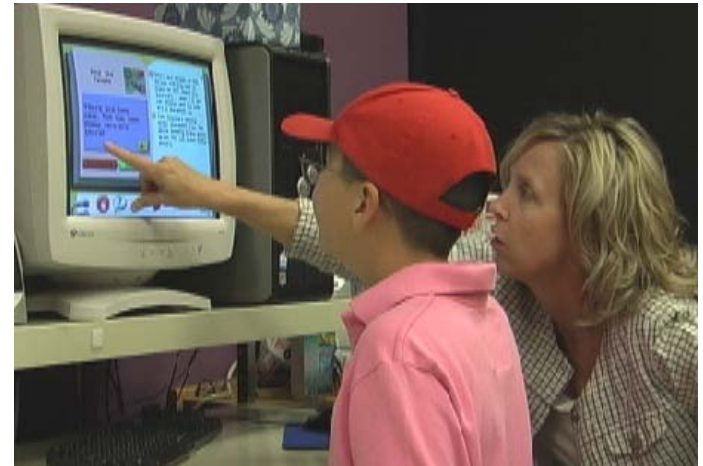


Assessment → Implementation → Outcomes





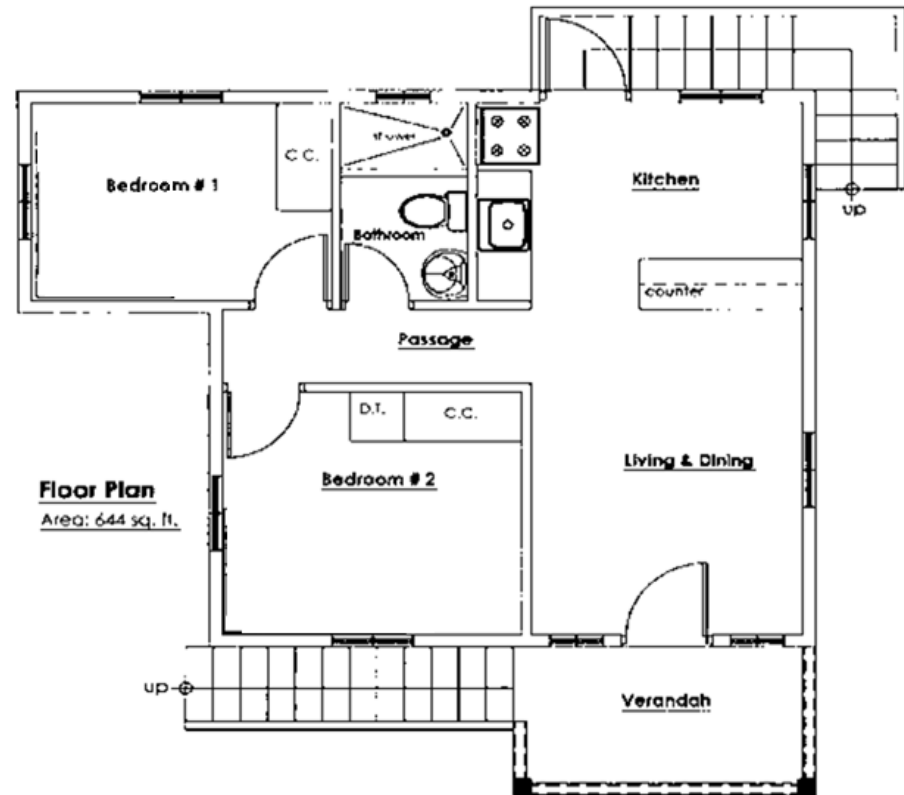
Program Quality Indicators, Students Goals, and Evidence Based Practices



Program Quality Indicators and Evidence-Based Practices (EBP)

Program Quality

- Contextual features of the program that represent best practices
- Program quality as the house in which practices are employed



Program Quality Indicators and Evidence-Based Practices (EBP)

EBP

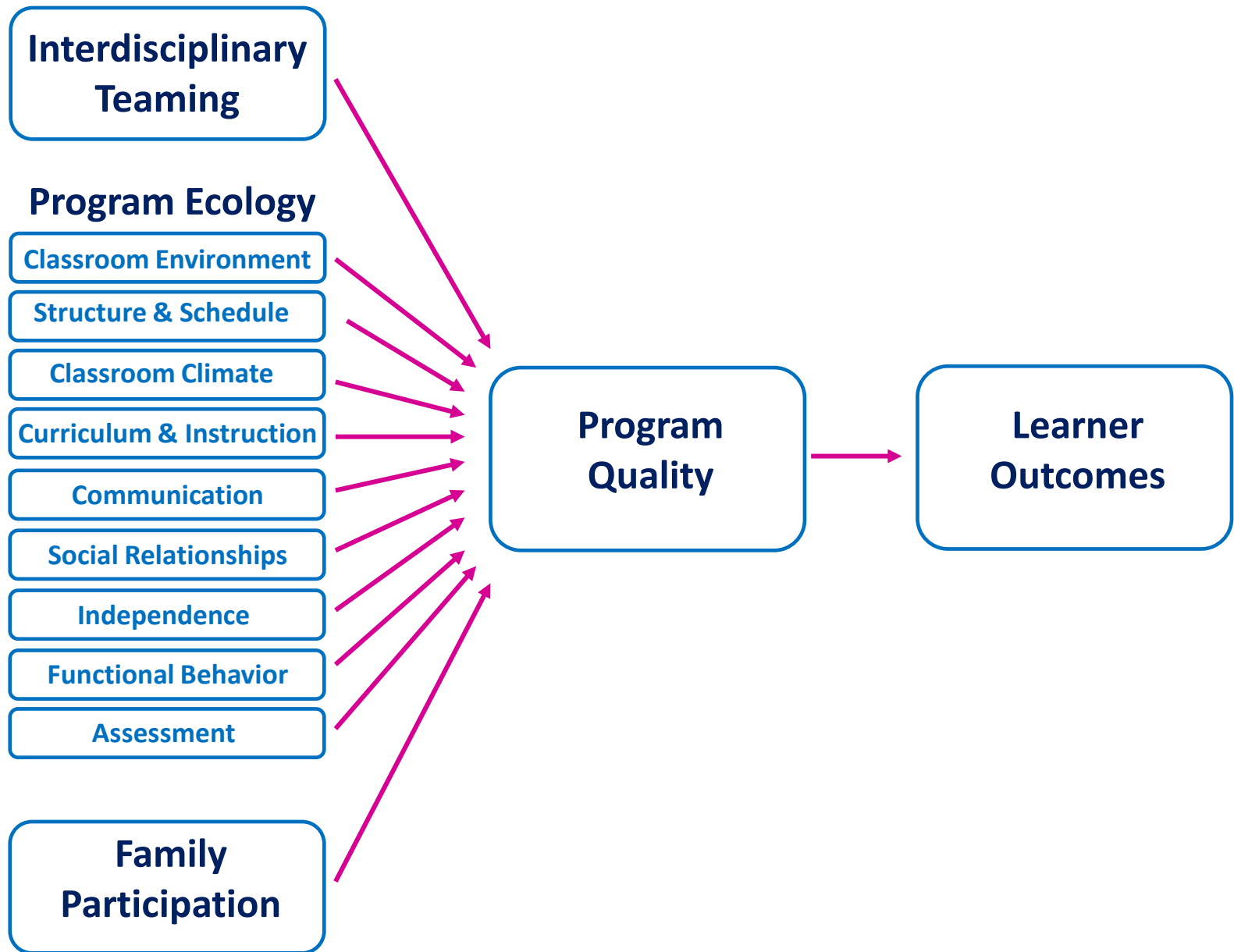
- Evidence-based practices as specific tools for specific skills
- EBP as the furniture or appliances designed for specific functions



Autism Program Environment Rating Scale (APERS)

- Designed to assess *quality indicators of programs* for children and youth with ASD
- Purposes of the APERS
 - Program evaluation
 - Consultation
 - Self-evaluation
 - Professional development





How Do We Collect This Information?

- Observation in program across the school day
 - For inclusive programs with more than one class, observe two students for three hours each
- Review IEP
- Interview teacher(s)
- Interview parent(s)
- Interview team member or another staff member



Features of APERS

- Two APERS formats: PS/ELE; MHS
- Organized by domains and subdomains
- Applicable in self-contained and inclusive programs
- Scored on a five-point scale with behavioral anchors at three points
- Results can be summarized by scores or graphs



Preschool/Elementary APERS

- For self-contained and inclusive environments
- Consists of 11 domains
- 64 items
- Data collected by:
 - 3 hour observation and
 - by interviews with teacher, team member, and parent



PS/ELE APERS Domains

- Classroom Environment
- Class Structure/Schedule
- Positive Classroom Climate
- Assessment
- Curriculum and Instruction
- Communication
- Staff/Peer Relationships
- Personal Independence and Competence
- Functional Behavior
- Family Involvement
- Teaming



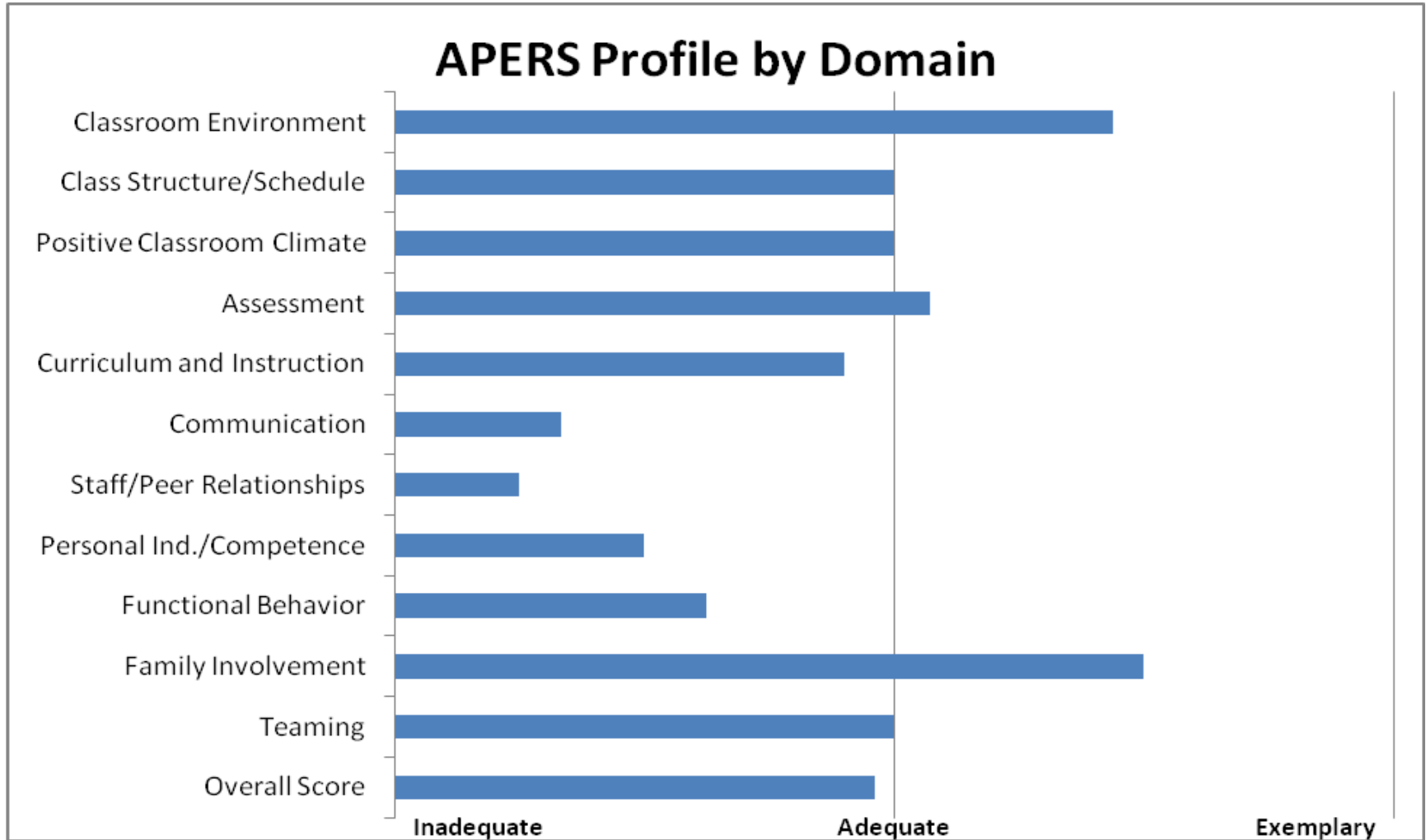
How can we use the APERS?

- Create a profile that is useful for understanding program quality
- Identify strengths and needs of programs
- Target domains/sub-domains to enhance program improvement
- Strengthen overall program

One needs a strong “house” (program) in which to implement EBP



Autism Program Environment Rating Scale



From IEP Goals to Evidence-Based Practices



THE NATIONAL PROFESSIONAL DEVELOPMENT CENTER ON
AUTISM SPECTRUM DISORDERS

Student's IEP Goals

- Review student's IEP Goals with teacher/parents
- Identify 3 priority goals for each target student
- Engage in Goal Attainment Scaling for each of these goals
- Monitor progress on meeting or exceeding goals
- Make modifications as needed



Assessment for Examining Children's Goals: Goal Attainment Scale (GAS)

- Goal Attainment Scale (GAS) is designed to document progress on goal, objective, and benchmark.
- Has a long history in fields of mental health, education, geriatric care
- Provides a summative rating to evaluate outcomes of programs
- May or may not be detailed enough for progress monitoring



Description of GAS

- Establish a five point range of performances for students:
 - Much less than expected (-2)
 - Somewhat less than expected (-1)
 - Expected level of outcome (0)
 - Somewhat more than expected (1)
 - Much more than expected (2)



How to Develop a GAS

- Select learning objective/benchmark with a defined continuum of outcomes.
- Identify outcomes that reflect the five points on the continuum noted.
- Identify the current level of performance.
- Use the continuum to evaluate growth on a designated schedule (monthly, bimonthly).
- Use GAS to determine final outcome at end of learning period (end of the year).



How to Develop a GAS

-2 When the timer goes off, E.J. transitions with a full physical prompt between activities within the classroom 4 out of 5 opportunities weekly.

-1 When the timer goes off, E.J. will transition with a partial physical prompt between activities within the classroom 4 out of 5 opportunities weekly.

0 When the timer goes off, E.J. will transition independently between activities within the classroom 4 out of 5 opportunities weekly.

+1 When the timer goes off, E.J. will transition independently between activities outside the classroom 4 out of 5 opportunities weekly.

+2 When the timer goes off, E.J. will transition independently between both the classroom and the playground and the classroom and the lunchroom 4 out of 5 opportunities weekly.





Evidence-Based Practices



THE NATIONAL PROFESSIONAL DEVELOPMENT CENTER ON
AUTISM SPECTRUM DISORDERS

What are EBP?

Focused interventions that:

- Produce specific behavioral/developmental outcomes for a child
- Have been demonstrated as effective in applied research literature
- Can be successfully implemented in educational settings

(Odom, Boyd, Hall, & Hume, 2009)



Process Used to Identify EBP

- Identified outcomes related to the core features of autism
- Reviewed literature related to these outcomes as well as the key words autism, ASD, and autism spectrum, limited by age (birth – 21)
- Identified and grouped teaching interventions that addressed these outcomes/domains
- Determined criteria and whether an evidence base supported the practices



NPDC Criteria

To be considered an evidence-based practice:

- Two randomized or quasi-experimental design studies,
- Five single subject design studies by three different authors, OR
- A combination of evidence such a one group and three single-subject studies



Evidence-Based Practices

- Computer-aided instruction
- Differential reinforcement
- Discrete trial training
- Extinction
- Functional behavior assessment
- Functional communication training
- Naturalistic interventions
- Parent-implemented intervention
- Peer-mediated instruction/intervention
- Picture Exchange Communication System™
- Pivotal response training
- Prompting
- Reinforcement
- Response interruption/redirection
- Self-management
- Social narratives
- Social skills training groups
- Speech generating devices
- Stimulus control
- Structured work systems
- Task analysis
- Time delay
- Video modeling
- Visual supports

How do we use EBP?

With students



- Achieving IEP goals
- Developing skills
- Monitoring progress

With practitioners & TA providers



- Providing training/fidelity
- Providing technical assistance/coaching
- Monitoring progress
- Measuring outcomes



Practices for Early Childhood (2-5)

Evidence-Based Practices	Academics & Cognition	Behavior	Communi- cation	Play	Social	Transition
1. Computer Assisted Instruction						
2. Differential Reinforcement						
3. Discrete Trial Training						
4. Extinction						
5. Functional Behavioral Assessment						
6. Functional Communication Training						
7. Naturalistic Interventions						
8. Parent Implemented Interventions						
9. Peer Mediated Instruction/Intervention						
10. Picture Exchange Com. System						
11. Pivotal Response Training						
12. Prompting						
13. Reinforcement						
14. Response Interruption & Redirection						
15. Self-Management						
16. Social Narratives						
17. Social Skills Groups						
18. Speech Generating Devices (VOCA)						
19. Stimulus Control						
20. Structured Work Systems						
21. Task analysis						
22. Time delay						
23. Video Modeling						
24. Visual Supports						

How do we Decide Which EBP to Use?

Ask: What is our goal/objective targeting?

- Consider the specific IEP goals and related objectives

Ask: What are our options?

- Look at the domain of behavior to which the specific goal relates



Practices for Early Childhood (2-5)

Evidence-Based Practices	Behavior
1. Computer Assisted Instruction	
2. Differential Reinforcement	
3. Discrete Trial Training	
4. Extinction	
5. Functional Behavioral Assessment	
6. Functional Communication Training	
7. Naturalistic Interventions	
8. Parent Implemented Interventions	
9. Peer Mediated Instruction/Intervention	
10. Picture Exchange Com. System	
11. Pivotal Response Training	
12. Prompting	
13. Reinforcement	
14. Response Interruption & Redirection	
15. Self-Management	
16. Social Narratives	
17. Social Skills Groups	
18. Speech Generating Devices (VOCA)	
19. Stimulus Control	
20. Structured Work Systems	
21. Task analysis	
22. Time delay	
23. Video Modeling	
24. Visual Supports	

Next, make a decision based on:

- The skills being taught
- Your program strengths/needs
- Your professional wisdom
- The learner's learning style
- The learner's temperament
- The learner's interests and motivators
- Supports already in place
- History of what has and has not worked



Example: IEP Application Goal Communication

Goal:

Sam will improve expressive communication skills across the school day.

Related Benchmark:

Sam will request a desired item during snack and/or free choice time three times per day for two consecutive weeks



Ask: What is the goal targeting?

- Communication/Expressive Language

Ask: What are my evidence-based practice options?



Practices for Early Childhood (2-5)

Evidence-Based Practices	Communication
1. Computer Assisted Instruction	
2. Differential Reinforcement	
3. Discrete Trial Training	
4. Extinction	
5. Functional Behavioral Assessment	
6. Functional Communication Training	
7. Naturalistic Interventions	
8. Parent Implemented Interventions	
9. Peer Mediated Instruction/Intervention	
10. Picture Exchange Com. System	
11. Pivotal Response Training	
12. Prompting	
13. Reinforcement	
14. Response Interruption & Redirection	
15. Self-Management	
16. Social Narratives	
17. Social Skills Groups	
18. Speech Generating Devices (VOCA)	
19. Stimulus Control	
20. Structured Work Systems	
21. Task analysis	
22. Time delay	
23. Video Modeling	
24. Visual Supports	

Next, make a decision based on:

- Your program strengths/needs
- Your professional wisdom
- The learner's learning style, temperament, and interests
- Supports already in place
- History of what has and has not worked



Let's say we know this. . .

- Sam is in an inclusive preschool setting
- Sam is already using pictures for a visual schedule at school
- One of Sam's classmates uses PECS, and Sam is interested in the pictures
- Sam does not like talking to most people and he is difficult to understand
- Program staff (teachers and assistants) use PECS with fidelity with other students



What Practice Might be a Good Fit for Sam and the Program?

Evidence-Based Practices	Communication
1. Computer Assisted Instruction	
2. Differential Reinforcement	
3. Discrete Trial Training	
4. Extinction	
5. Functional Behavioral Assessment	
6. Functional Communication Training	
7. Naturalistic Interventions	
8. Parent Implemented Interventions	
9. Peer Mediated Instruction/Intervention	
10. Picture Exchange Com. System	
11. Pivotal Response Training	
12. Prompting	
13. Reinforcement	
14. Response Interruption & Redirection	
15. Self-Management	
16. Social Narratives	
17. Social Skills Groups	
18. Speech Generating Devices (VOCA)	
19. Stimulus Control	
20. Structured Work Systems	
21. Task analysis	
22. Time delay	
23. Video Modeling	
24. Visual Supports	



What About Goals That Cut Across Domains?

- Matrix still can be helpful
- Consider which domains are involved in addressing the goal
- Align domains, by age grouping, to identify EBP possibilities
- Proceed as before to consider other variables (learner factors, teacher/staff factors, history, etc.) when deciding on EBP



IEP Application Goal: Behavior/Communication

Goal:

Xena will express her frustration with transitioning between activities with pictures rather than by physical aggression

Related benchmark:

When Xena experiences frustration with moving from one activity to another, she will use picture cards to request help or to take a break



Let's say we know this...

- Through the FBA process, the team determined that Xena was using aggression when she became frustrated with moving from activity to activity
- Xena has limited verbal ability
- Xena uses a picture schedule to start her day



Some EBP Possibilities



Evidence-Based Practices	Behavior	Communication
1. Computer Assisted Instruction		
2. Differential Reinforcement		
3. Discrete Trial Training		
4. Extinction		
5. Functional Behavioral Assessment		
6. Functional Communication Training		
7. Naturalistic Interventions		
8. Parent Implemented Interventions		
9. Peer Mediated Instruction/Intervention		
10. Picture Exchange Com. System		
11. Pivotal Response Training		
12. Prompting		
13. Reinforcement		
14. Response Interruption & Redirection		
15. Self-Management		
16. Social Narratives		
17. Social Skills Groups		
18. Speech Generating Devices (VOCA)		
19. Stimulus Control		
20. Structured Work Systems		
21. Task analysis		
22. Time delay		
23. Video Modeling		
24. Visual Supports		

How was Xena's Goal Addressed?

- Several practices are/were used to address this student's goal
- Teachers/assistants established fidelity of implementation for the practices chosen
- These included
 - Functional behavioral assessment
 - Visual supports
 - Reinforcement
 - PECS



NPDC Next Steps Related to Evidence-Based Practices

- Continue to review research related to practices that can:
 - Expand application of existing EBP (age and/or domain)
 - Identify new EBP
 - Identify emerging practices
- Develop/refine resources on new and existing EBP
- Share resources with the public



Partnership With States



Features of State Partnerships

- Systems-focused
 - Involve key stakeholders in state
 - Share resources, identify needs
- Strategic
 - Based on need
 - Clear benchmarks during 2-year involvement
- Sustainable
 - Build network of high quality programs and professionals
 - Give states tools to continue



State Process

- State convenes group and prepares application
- Interagency Autism Planning Group (IAPG) formed
- Strategic planning meeting held
- YR 1 strategic plan developed, model sites selected
- IAPG updated on progress and plans for YR 2
- Expansion sites selected
- IAPG receives



Who is on the IAPG?

- Department of Education, UCEDD, Part C, other autism-focused organizations, advocacy groups, family members, persons with ASD, TA providers, universities/colleges, district administrators-determined by state leadership
- Role is to provide direction for planning based on state needs and assist with identifying state Autism Training Team and model sites
- Monitor progress

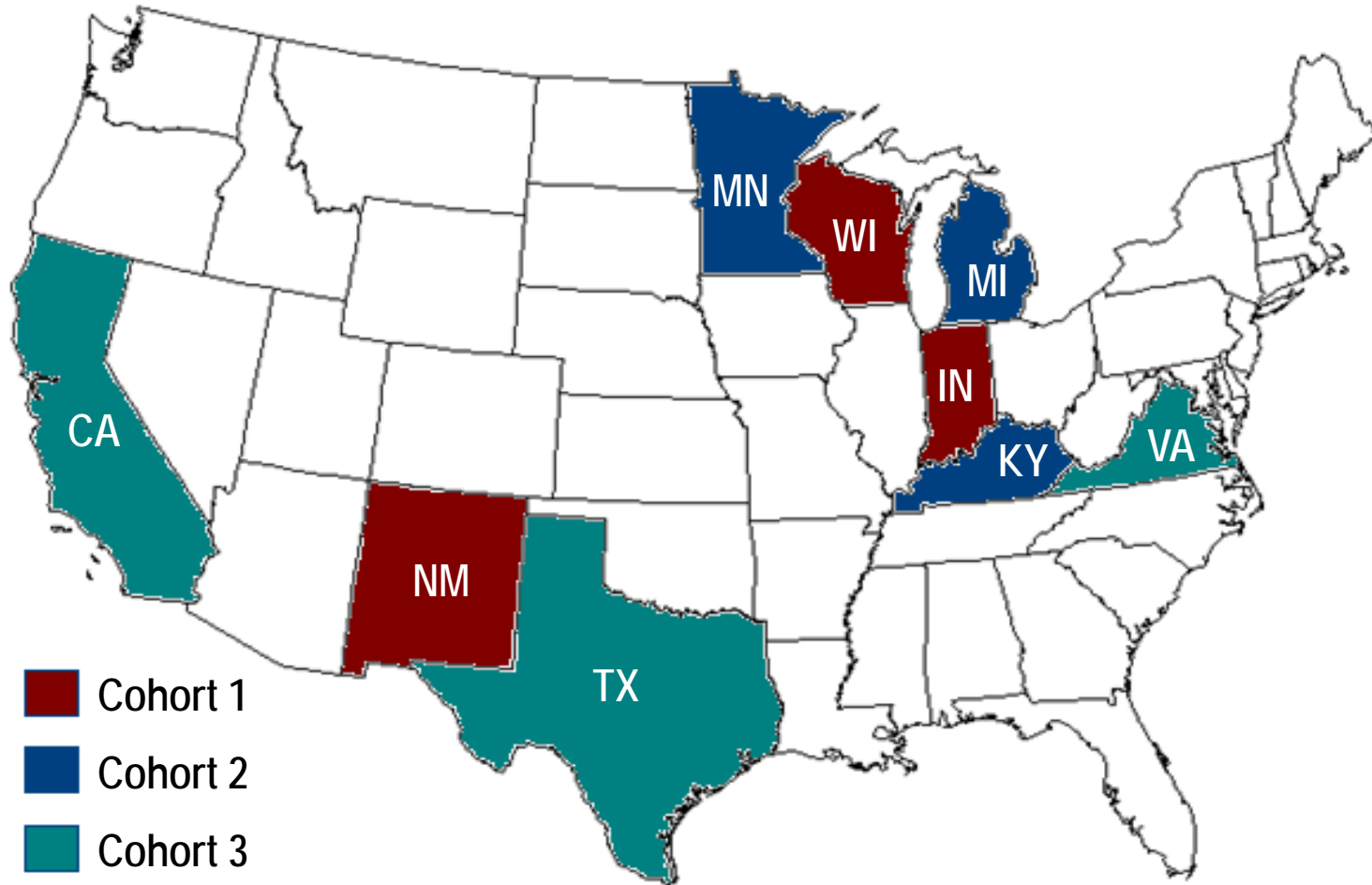


Who is on the Autism Training Team?

- Autism trainers and TA providers in the state

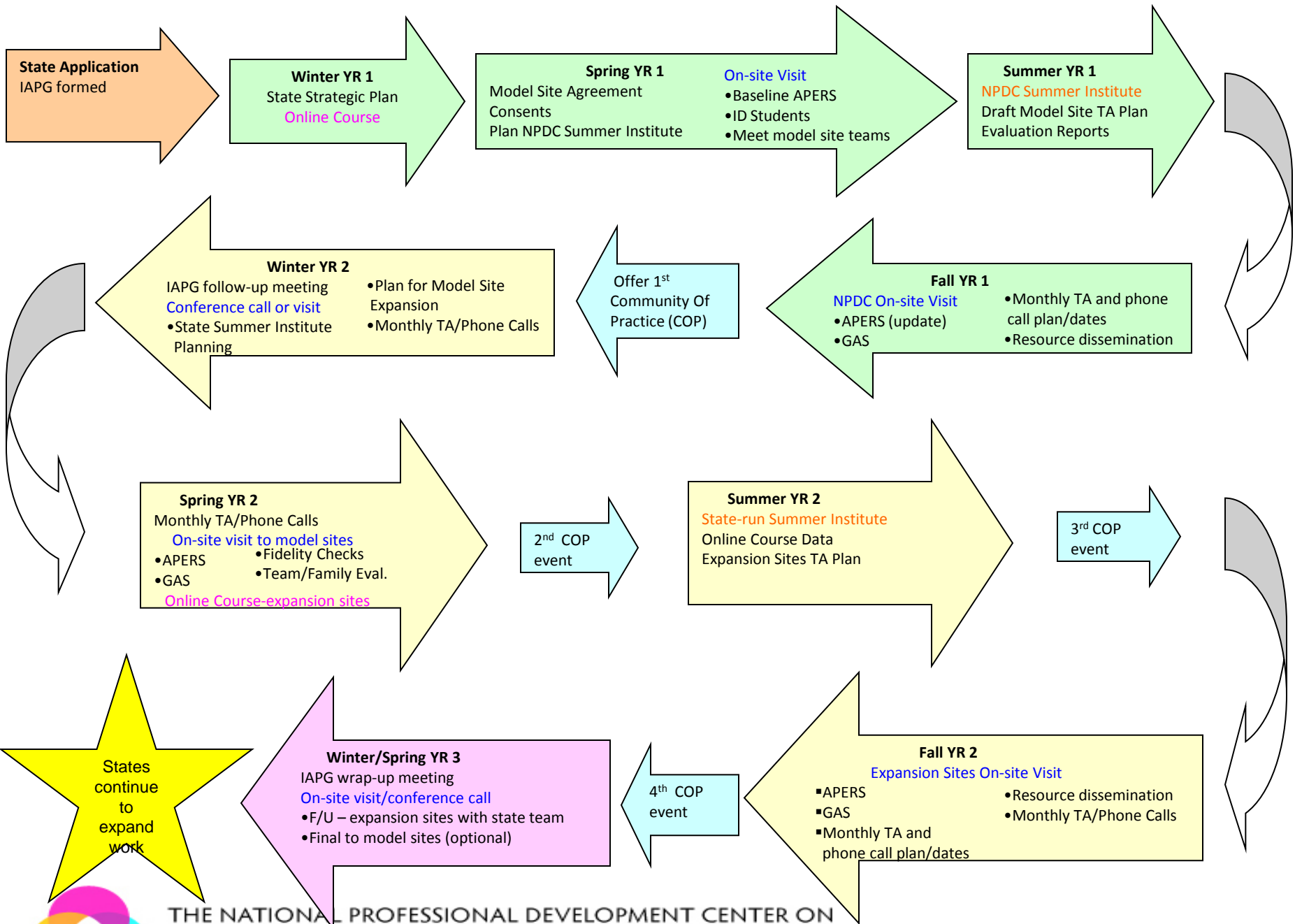


State Involvement



How are States Involved With the NPDC on ASD?





State Application
IAPG formed

Winter YR 1
State Strategic Plan
Online Course

Spring YR 1
Model Site Agreement
Consents
Plan NPDC Summer Institute
On-site Visit
• Baseline APERS
• ID Students
• Meet model site teams

Summer YR 1
NPDC Summer Institute
Draft Model Site TA Plan
Evaluation Reports

Fall YR 1
NPDC On-site Visit
• APERS (update)
• GAS
• Monthly TA and phone call plan/dates
• Resource dissemination

Winter YR 2
IAPG follow-up meeting
Conference call or visit
• State Summer Institute Planning
• Plan for Model Site Expansion
• Monthly TA/Phone Calls

Offer 1st Community Of Practice (COP)

Spring YR 2
Monthly TA/Phone Calls
On-site visit to model sites
• APERS
• GAS
• Fidelity Checks
• Team/Family Eval.
Online Course-expansion sites

2nd COP event

Summer YR 2
State-run Summer Institute
Online Course Data
Expansion Sites TA Plan

3rd COP event

Fall YR 2
Expansion Sites On-site Visit
• APERS
• GAS
• Monthly TA and phone call plan/dates
• Resource dissemination
• Monthly TA/Phone Calls

Winter/Spring YR 3
IAPG wrap-up meeting
On-site visit/conference call
• F/U – expansion sites with state team
• Final to model sites (optional)

States continue to expand work



Availability of Resources

- Visit our Website at www.fpg.unc.edu/~autismpdc to find:
 - Content of online foundational course
 - Evidence-based practice descriptions
 - Evidence-based practice briefs
 - Recent PowerPoint presentations



Evidence-Based Practices are Delicious



Questions?



THE NATIONAL PROFESSIONAL DEVELOPMENT CENTER ON
AUTISM SPECTRUM DISORDERS