# **AFIRM**

Autism Focused Intervention Resources & Modules

### EBP BRIEF PACKET: NATURALISTIC INTERVENTION

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UNC Frank Porter Graham Child Development Institute Autism Focused Intervention Resources & Modules Amsbary, J., & AFIRM Team, Updated 2025





FRANK PORTER GRAHAM CHILD DEVELOPMENT INSTITUTE

### **OVERVIEW OF CONTENT**

- **1. Table of NI Contents:** This list details the specific NI resources that apply to Naturalistic Intervention.
- 2. What is NI: A quick summary of salient features of Naturalistic Intervention, including what it is, who it can be used with, what skills it has been used with, and settings for instruction.
- **3. Evidence-base:** The evidence-base details the National Clearinghouse on Autism Evidence and Practice (NCAEP) criteria for inclusion as an evidence-based practice and the specific studies that meet the criteria for Naturalistic Intervention.
- **4. Planning Checklist:** This checklist details the steps for planning for Naturalistic Intervention, including what prerequisite learning of practices are needed, collecting baseline data of the interfering behavior if needed, and what materials/resources are needed.
- **5. Other Resources:** Other resources may include decision trees, checklists, and/or template forms that will support the use of Naturalistic Intervention.
- **6. Step-by-Step Guide:** Use this guide as an outline for how to plan for, use, and monitor Naturalistic Intervention. Each step includes a brief description as a helpful reminder while learning the process.
- 7. Implementation Checklist: Use this checklist to determine if Naturalistic Intervention are being implemented as intended.
- 8. Monitoring Progress Checklist: Use this form as a method for collecting and analyzing data to determine if the learner on the spectrum is making progress towards the interfering behavior.
- **9. Tip Sheet for Professionals:** Use this tip sheet, intended for professionals working with learners on the spectrum, as a supplemental resource to help provide basic information about Naturalistic Intervention.
- **10. Parent Guide:** Use this guide intended for parents or family members of learners on the spectrum to help them understand basic information about Naturalistic Intervention and how it is being used with their child.
- **11. Additional Resources:** This list provides additional information for learning more about Naturalistic Intervention as well as resources.
- **12. CEC Standards:** This list details the specific CEC standards that apply to Naturalistic Intervention.
- **13. Glossary:** This glossary contains key terms that apply specifically to Naturalistic Intervention.
- **14. References:** This list details the specific references used for developing this NI module in numerical order.









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### **NATURALISTIC INTERVENTION**

#### WHAT IS NI?

Naturalistic Intervention (NI) is a collection of techniques and strategies, including Pivotal Response Training (PRT; available as a supplemental module with the 2014 NPDC EBP Report evidence-base), that are embedded in typical activities and/or routines in which the learner participates to naturally promote, support, and encourage target skills/behaviors.

### **EVIDENCE-BASE:**

Based upon the 2020 systematic review conducted by the National Clearinghouse on Autism Evidence and Practice (NCAEP), Naturalistic Intervention is a focused intervention that meets the evidence-based practice criteria with 49 single case design and 35 group design studies . Naturalistic Intervention has been effective for early intervention (0-2 years), preschoolers (3-5 years), elementary school learners (6-11 years), middle school learners (12-14 years), high schoolers (15-18 years), and young adults (19-22 years) on the spectrum. Studies included the 2020 EBP report (Steinbrenner et al., 2020) detail how Naturalistic Intervention can be used to effectively address the following outcomes for a target goal/behavior/skill: academic/pre-academic, adaptive/self-help, behavior, cognitive, communication, joint attention, mental health, motor, play, school readiness, and social.

### HOW IS NI BEING USED?

Naturalistic Intervention can be used by a variety of professionals, including teachers, special educators, therapists, paraprofessionals, and early interventionists in educational and community-based environments. Parents and family members also can use Naturalistic Intervention in the home.

#### **Suggested Citation:**

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### **EVIDENCE-BASE**

The National Clearinghouse on Autism Evidence and Practice has adopted the following criteria to determine if a practice is evidence-based. The 2020 EBP report (Steinbrenner et al., 2020) provides more information about the systematic review process.

Efficacy must be established through high-quality, peer-reviewed research in scientific journals using:

- At least 2 randomized or quasi-experimental group design studies, or
- At least 5 single subject/case design studies, or a
- Combination of evidence of 1 randomized or quasi-experimental group design study and 3 single subject/case design studies

### **OVERVIEW:**

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In the table below, the instructional outcomes identified by the evidence base are shown by age of participants.

Age	Academic	Adaptive	Behavior	Cognitive	Communication	Joint Attention	Mental Health	Motor	Play	School Readiness	Social
0-2	Yes	Yes	Yes		Yes	Yes	Yes		Yes	Yes	Yes
3-5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6-11			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12-14			Yes		Yes				Yes		Yes
15-18			Yes						Yes		Yes
19-22			Yes						Yes		Yes









### EARLY INTERVENTION (0-2 YEARS):

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### MIDDLE SCHOOL (12-14 YEARS):

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### HIGH SCHOOL (15-18 YEARS):

- \* Ingersoll, B., Berger, N., Carlsen, D., & Hamlin, T. (2016). Improving social functioning and challenging behaviors in adolescents with ASD and significant ID: A randomized pilot feasibility trial of reciprocal imitation training in a residential setting. *Developmental Neurorehabilitation*, *20*(4), 236-246. https://doi.org/10.1080/17518423.2016.1211187
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### YOUNG ADULT (19-22 YEARS):

\* Ingersoll, B., Berger, N., Carlsen, D., & Hamlin, T. (2016). Improving social functioning and challenging behaviors in adolescents with ASD and significant ID: A randomized pilot feasibility trial of reciprocal imitation training in a residential setting. *Developmental Neurorehabilitation*, 20(4), 236-246. https://doi.org/10.1080/17518423.2016.1211187

*Notes:* \* denotes the study has participants in at least two age ranges **Bold denotes new studies since 2011 (2012 till 2017)** 







### NATURALISTIC INTERVENTION STRATEGIES

#### Use novel materials and change things up in familiar routines and activities: To set up the

environment and to engage a learner if they do not seem interested in playing with you or seems to be bored during an activity

- Add new toys to a play area in the classroom
- Move preferred items/toys into a different location
- Put something silly (e.g., a stuffed animal or toy figure) somewhere it should not be (e.g., in a toy sink)

## **Respond to and comment on what the learner is saying/doing:** To help the learner engage with you while playing

- "Narrate" what the learner is doing (e.g., "Oh, I see you are building with blocks!")
- Ask the learner questions (e.g., "What should we do next?" "Tell me about what you are doing.")
- When the learner vocalizes, respond with words, even if the vocalization is not directed at you

### Imitate what the learner is saying/doing: To draw the learner's attention to you

- Make the same sounds/words right after the learner does, and wait to see if the learner looks towards you and engages
- Do the same actions as the learner and encourage the learner to look toward you and engage

**Expand on what the learner is saying/doing:** To keep the learner engaged following the start of an activity

- Bring toy figures into play with cars or blocks
- Add another step onto a play routine (e.g., if the learner is pretending to feed a baby, encourage the learner to feed you as well)

### Give the learner choices: To encourage learner engagement and communication

• Offer choices to the learner with play items and food

Follow the learner's lead: To help the learner remain engaged and interested in the activityGet down to the learner and play with what the learner is playing with

#### **Exaggerate your sounds and movements**: To draw the learner's attention to you

• Be loud and silly while playing with/working with the learner

**Use Pivotal Response Training:** To increase motivation, communication, and engagement in a naturalistic way.

- Give the learner a reason to communicate by withholding a desired item until they request it
- Reinforce attempts at communication with immediate and natural rewards
- Follow the child's interests while embedding learning opportunities

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### **FAMILY DAILY ROUTINES/ACTIVITIES PLAN**

Child's Name: \_\_\_\_\_

Date/Time:

#### **Observer(s)**:

#### Target Goal/Behavior/Skill:

**Directions:** Use this form as a guide support the family member using parent-implemented interventions with their child in daily routines and activities.

Morning Routine/ Activity	Enjoyment Level	Barriers/ Struggles	Transitions	Good fit for EBP?
Waking up	8900		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Getting dressed	() () ()		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Eating breakfast	3000		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Brushing teeth	© 😳 😳		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Other	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	☐ Yes ☐ Maybe ☐ No

Afternoon Routine/ Activity	Enjoyment Level	Barriers/ Struggles	Transitions	Good fit for EBP?
Napping	3000		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Playing	8900		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Eating lunch/ snack	⊗ ⊡ ©		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Brushing teeth	3 🖸 🛈		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Other	800		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No





Autism Focused Intervention Resources & Modules

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Bathing

AFIRM

**Naturalistic Intervention** For more information, please visit: <u>https://afirm.fpg.unc.edu/</u>

Out: NA rough so-so smooth

#### Evening **Routine**/ Enjoyment Good fit Activity Level **Barriers/Struggles Transitions** for EBP? Yes Going to Into: NA rough so-so smooth $\odot$ $\odot$ $\odot$ □ Maybe Out: NA rough so-so smooth sleep 🛛 No Yes Changing Into: NA rough so-so smooth $\odot$ $\odot$ $\odot$ □ Maybe clothes Out: NA rough so-so smooth No Yes Reading Into: NA rough so-so smooth $\odot$ $\odot$ $\odot$ □ Maybe Out: NA rough so-so smooth story No Yes Eating Into: NA rough so-so smooth $\odot$ $\odot$ $\odot$ □ Maybe dinner Out: NA rough so-so smooth 🛛 No Yes **Brushing** Into: NA rough so-so smooth $\odot$ $\odot$ $\odot$ □ Maybe Out: NA rough so-so smooth teeth 🛛 No Yes Into: NA rough so-so smooth

Other	8900		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>☐ Yes</li><li>☐ Maybe</li><li>☐ No</li></ul>
Other Routines	Enjoyment Level	Barriers/ Struggles	Transitions	Good fit for EBP?
Playdates/ Playgroups	© 🛈 🕄		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
School/ Childcare	() () ()		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Playing Outside	8 😐 🙂		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Other	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No





□ Maybe

🛛 No



Outings	Enjoyment Level	Barriers/ Struggles	Transitions	Good fit for EBP?
Playground /Park	800		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Store	© 🛈		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Church	3000		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Pool	800		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Restaurant	© 🛈 😳		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Doctor	() () ()		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Family	() () ()		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Other	8 😄 😳		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>

### **ADDITIONAL NOTES:**









### **CENTER-BASED ROUTINES/ACTIVITIES PLAN**

Learner's Name: \_\_\_\_\_

Date/Time:

**Observer(s)**:

#### Target Goal/Behavior/Skill: \_

**Directions:** Use this form as a guide support the caregiver using Naturalistic Intervention for learners in center-based daily routines and activities.

Self-care	Enjoyment Level	Barriers/ Struggles	Transitions	Good fit for EBP?
Mealtime	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Snack time	© ©		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Diapering/Potty	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Handwashing	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Napping	© ©		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Other	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No

Activities	Enjoyment Level	Barriers/ Struggles	Transitions	Good fit for EBP?
Group time	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>☐ Yes</li><li>☐ Maybe</li><li>☐ No</li></ul>
Story time	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Free play	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Center play	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Outdoor play	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Table time	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Drop off/ Pickup	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Other		Development Center on Autism	Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul> <li>Yes</li> <li>Maybe</li> <li>No</li> </ul>



### **SCHOOL ROUTINES/ACTIVITIES PLAN**

Learner's Name: \_\_\_\_\_

Date/Time:

**Observer(s)**:

#### Target Goal/Behavior/Skill:

Directions: Use this form as a guide support the caregiver using Naturalistic Intervention for learners in school routines and activities.

Morning Routines	Enjoyment Level	Barriers/ Struggles	Transitions	Good fit for EBP?
School arrival	8900		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Playtime	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Mealtime	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Hygiene (bathroom, handwashing)	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Circle time	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Academics:	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Academics:	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Specials (music, art, gym)	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Specials (music, art, gym)	☺ ☺ ☺		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Other:	8 😄 😊		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>







Afternoon Routines	Enjoyment Level	Barriers/ Struggles	Transitions	Good fit for EBP?
Playtime	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Snack	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Hygiene (bathroom, handwashing)	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul> <li>Yes</li> <li>Maybe</li> <li>No</li> </ul>
Recess	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Nap	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Academics:	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Academics:	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Specials (music, art, gym)	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No
Specials (music, art, gym)	800		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Other:	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	<ul><li>Yes</li><li>Maybe</li><li>No</li></ul>
Pickup/ Afterschool	890		Into: NA rough so-so smooth Out: NA rough so-so smooth	□ Yes □ Maybe □ No









### **REINFORCER SAMPLING & CHECKLIST**

#### Learner's Name: \_\_\_\_

Date/Time: \_\_

Observer(s):

#### Target Goal/Behavior/Skill:

**Directions:** Use this worksheet and checklist to identify and select reinforcers/rewards based on the learner's preferred items, interests, and activities for **Positive Reinforcement** and **Token Economy**.

### CONDUCT A REINFORCER SAMPLING:

- 1. Sit in front of the learner and hold up two items. Ask the learner to "Pick one."
- 2. Wait 10 seconds for the learner to indicate selection in manner that is appropriate for the learner (e.g., verbalization, pointing, using an augmentative communication device).
- 3. Place the selected object in a container for learner's selection and non-selected item in the not selected container.
- 4. Repeat steps 1 through 3 until half of the objects presented are selected.

ltem 1	Selected?	ltem 2	Selected?
	Yes No		Yes No
	Yes No		Yes No
	Yes No		Yes No
	Yes No		Yes No
	Yes No		Yes No
	Yes No		Yes No
	Yes No		Yes No

### LIST SELECTED REINFORCERS:









### LIST POTENTIAL REINFORCERS:

1.	What natural reinforcers could be used?	AGE APPROPRIATE?		
		Yes	No	
2.	What activities, objects, and/or foods does the learner select independently?	Yes	No	
3.	What phrases or gestures seem to produce a pleasant response from the learner?	Yes	No	
4.	What does the learner say they would like to work for (if appropriate)?	Yes	No	
5.	What reinforcers were identified by parents/family members and/or team members as being successful in the past?	Yes	No	
6.	Does the learner require additional adaptations/ modifications/supports? Such as visual supports or a communication device?	Yes	No	
7.	Have reinforcers/rewards for the learner been identified based on the learner's interests/preferred items and/or activities?	Yes	Νο	
8.	Are additional materials and/or resources for using Functional Behavior Assessment ready and available?	Yes	No	



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### **DATA COLLECTION: BASELINE (HOME)**

Child's Name: \_\_\_\_\_

Date/Time:

**Observer(s)**:

Target Skill/Goal/Behavior:\_\_\_\_

**Directions:** Observe the learner and their use of the target skill during routines and activities.

Target Behavior or Skill	Date/ Time	Routine/Activity	Observed Target Behavior	Good Fit for NI?
		Mealtime     Family Outing		□ Yes □ Maybe
		□ Dressing		$\square$ No
		🗆 Bedtime		
		🗆 Playtime		
		🗆 Bath time		
		□ Other:		
		Mealtime		□ Yes
		Family Outing		□ Maybe
				∐ No
		Bath time		
		U Otner:		
		$\Box$ Meanine		🗆 res
		□ Bedtime		
		□ Plavtime		
		Bath time		
		$\Box$ Other:		

### **ADDITIONAL NOTES:**









### **DATA COLLECTION: BASELINE (SCHOOL)**

Learner's Name: \_\_\_\_\_

Date/Time:

**Observer(s)**:

#### Target Skill/Goal/Behavior:\_\_\_

**Directions:** Observe the learner and their use of the target skill during routines and activities.

Target Behavior or Skill	Date/ Time	Routine/Activity	Observed Target Behavior	Good Fit for NI?	
		<ul> <li>Mealtime</li> <li>Class Outing</li> <li>Circle time</li> <li>Recess</li> <li>Academics</li> <li>Hygiene</li> <li>Other:</li> </ul>		□ Yes □ Maybe □ No	
		<ul> <li>Mealtime</li> <li>Class Outing</li> <li>Circle time</li> <li>Recess</li> <li>Academics</li> <li>Hygiene</li> <li>Other:</li> </ul>		□ Yes □ Maybe □ No	
		<ul> <li>Mealtime</li> <li>Class Outing</li> <li>Circle time</li> <li>Recess</li> <li>Academics</li> <li>Hygiene</li> <li>Other:</li> </ul>		□ Yes □ Maybe □ No	

### **ADDITIONAL NOTES:**









### **DATA COLLECTION: BASELINE (SCHOOL) – EXAMPLE**

Learner's Name: Lillian

Date/Time:

Observer(s): Dan

Target Skill/Goal/Behavior:

**Directions:** Observe the learner and their use of the target skill during routines and activities.

Target Behavior or Skill	Date/ Time	Routine/Activity	Observed Target Behavior	Good Fit for NI?		
Decrease tantrums and engage in Play activities	2/17 12:30 pm	<ul> <li>Mealtime</li> <li>Class Outing</li> <li>Circle time</li> <li>Recess</li> <li>Academics</li> <li>Hygiene</li> <li>Other:</li> </ul>	Lillian ran around the playground until a group of girls came up to her and interacted. Following this interaction.	□ Yes ☑ Maybe □ No		
Decrease tantrums and engage in Play activities	2/19 10:00 am	<ul> <li>Mealtime</li> <li>Class Outing</li> <li>Circle time</li> <li>Recess</li> <li>Academics</li> <li>Hygiene</li> <li>☑ Other: Gym</li> </ul>	Lillian walked into the gym and immediately had a tantrum, continued crying until she saw one of her friends playing with hula hoops in the corner	<ul><li>✓ Yes</li><li>□ Maybe</li><li>□ No</li></ul>		
		<ul> <li>Mealtime</li> <li>Class Outing</li> <li>Circle time</li> <li>Recess</li> <li>Academics</li> <li>Hygiene</li> <li>Other:</li> </ul>		□ Yes □ Maybe □ No		

### **ADDITIONAL NOTES:**

It seems like Lillian is reacting to peers at recess, but upset during gym when she walks in. Let's start NI in gym (modeling appropriate play with hula-hoops when Lillian walks in) and I will talk to peers about what is going on at recess.









### **PLANNING CHECKLIST**

Learner's Name: Observer(s): Target Skill/Goal/Behavior: Directions: Complete this checklist to determine to use with the learner on the spectrum as well as	Date/Time:
SELECT ADDITIONAL EBPS:	
Antecedent-Based Intervention	Reinforcement
Modeling	Uisual Supports
Prompting	Other:
SELECT ROUTINES:	
Home:	School:
Mealtime	Mealtime
☐ Family Outing	Class Outing
Dressing	Circle time
Bedtime	Recess
Playtime	Academics
Bath time	Hygiene
Other:	Other:
SELECT IMPLEMENTER(S):	
Home:	School:
Parent	Teacher
Parent	Teacher Assistant
Other Family Member:	ОТ
От	SLP
SLP	RSP
RSP	Other:
Other:	

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### SELECT NATURALISTIC INTERVENTION STRATEGY:

Use novel materials and change things up in familiar routines and activities

Respond to and comment on what the learner is saying/doing

Imitate what the learner is saying/doing

Expand on what the learner is saying/doing

Give the learner choices

Follow the learner's lead

Exaggerate your sounds and movements

Use Pivotal Response Training (PRT)

### **PLANNING:**

Has the target goal/behavior/skill been identified?

Has baseline data and/or	a functional behavior	assessment been	collected through direct
observation of the toddle	r?		-

□ Is the target goal/behavior/skill measurable and observable? Does it clearly state **what** the target goal/behavior/skill is, **when** it will occur, and **how** team members/observers will know it has been mastered?

□ Is Naturalistic Intervention appropriate for the learner's target goal/behavior/skill?

Does the learner have needed prerequisite skills/abilities?

Does the learner require additional adaptations/modifications/supports? Such as visual supports or a communication device?

Have reinforcers/rewards for the learner been identified based on the toddler's interests/preferred items and/or activities?

Are additional materials and/or resources for using Naturalistic Intervention ready and available?









### **PLANNING CHECKLIST – EXAMPLE**

Learner's Name: Marco

Date/Time:

Observer(s): \_\_

Target Skill/Goal/Behavior: Participate in classroom activities

**Directions:** Complete this checklist to determine which type of Naturalistic Intervention strategy to use with the learner on the spectrum as well as if NI is ready to be implemented.

### **SELECT ADDITIONAL EBPS:**

Prompting provide least to most prompting to help Marco participate; begin with gestural prompts (pointing), then move to verbal prompts, followed by hand-over-hand prompting if needed to help Marco actively participate.

### **SELECT ROUTINES:**

School:

☑ Circle time

### **SELECT IMPLEMENTER(S):**

School:

Teacher Assistant

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**☑** SLP

### SELECT NATURALISTIC INTERVENTION STRATEGY:

Duse novel materials and change things up in familiar routines and activities Move Marco's \_carpet square, mix up words in familiar songs

Respond to and comment on what the learner is saying/doing

Give the learner choices increase variety of song choices and allow Marco to choose Exaggerate your sounds and movements

### **ADDITIONAL NOTES:**

Although Marco likes music, he often disengages during songs during circle time. Let's try these approaches for a few weeks to see if he increases his movements and sounds during songs at circle time









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### **DATA COLLECTION: HOME LOG**

**Directions:** Monitor your child and their use of the target skill during routines and activities to determine if your child has made progress.

Target Behavior or Date/ Skill Time		Rοι	utine/Activity	Activity Implementer EBPs Use			Ps Used	
				Mealtime Family Outing Dressing Bedtime Playtime Bath time Other:		Mom Dad Grandma Grandpa Caregiver Other:		Modeling Prompting Reinforcement Visual Supports Other:
Stra	ategies Used		Res	sults & Outcom	es			
	Use novel materials change things up in routines and activiti Respond to & comm what the learner is saying/doing Imitate what the lea saying/doing. Expand on what the is saying/doing Give the learner cho Follow the learner's Exaggerate your sou and movements Use PRT Other:	and familiar es nent on rner is learner ices lead inds						







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Tar Skil	get Behavior or l	Date/ Time	Roi	utine/Activity	Imp	olementer	EBF	Ps Used
				Mealtime Family Outing Dressing Bedtime Playtime Bath time Other:		Mom Dad Grandma Grandpa Caregiver Other:		Modeling Prompting Reinforcement Visual Supports Other:
Stra	ategies Used		Res	ults & Outcom	es			
<ul> <li>Use novel materials and change things up in familiar routines and activities</li> <li>Respond to &amp; comment on what the learner is saying/doing</li> <li>Imitate what the learner is saying/doing.</li> </ul>								
<ul> <li>Expand on what the learner is saying/doing</li> </ul>								
<ul> <li>Give the learner choices</li> <li>Follow the learner's lead</li> <li>Exaggerate your sounds and movements</li> </ul>								
Use PRT								

### **QUESTIONS:**

- 1. How do you think that went?
- 2. Did you encounter any challenges implementing the EBP?
- 3. At which points did you see the EBP working?
- 4. What could you have done differently?
- 5. Do you feel comfortable implementing this EBP?
- 6. Did the learner respond positively to naturally occurring reinforcers?
- 7. Did the learner seem to enjoy the activity?







### **DATA COLLECTION: SCHOOL LOG**

Learner's Name: \_\_\_\_\_

Date/Time:

**Observer(s)**:

#### Target Goal/Behavior/Skill:

Directions: Monitor the learner and their use of the target skill during routines and activities to determine if the learner has made progress.

Target Behavior or Date/		Routine/Activity	y Implementer EBPs Used			
SKIII	lime	<ul> <li>Circle time</li> <li>Lunch time</li> <li>Snack time</li> <li>Recess</li> <li>Academics</li> <li>Class outing</li> <li>Other:</li> </ul>	<ul> <li>Teacher</li> <li>TA</li> <li>SLP</li> <li>OT</li> <li>PT</li> <li>RSP</li> <li>Other:</li> </ul>	<ul> <li>Modeling</li> <li>Prompting</li> <li>Reinforcement</li> <li>Visual Supports</li> <li>Other:</li> </ul>		
Strategies Used		Results & Outcom	es			
<ul> <li>Use novel materials and change things up in familiar routines and activities</li> <li>Respond to &amp; comment on what the learner is saying/doing</li> <li>Imitate what the learner is saying/doing.</li> <li>Expand on what the learner is saying/doing</li> <li>Give the learner choices</li> <li>Follow the learner's lead</li> <li>Exaggerate your sounds and movements</li> <li>Use PRT</li> <li>Other:</li> </ul>						









Target Behavior or Date/		Routine/Activity	Implementer	EBPs Used
SKIII	Time	<ul> <li>Circle time</li> <li>Lunch time</li> <li>Snack time</li> <li>Recess</li> <li>Academics</li> <li>Class outing</li> <li>Other:</li> </ul>	<ul> <li>Teacher</li> <li>TA</li> <li>SLP</li> <li>OT</li> <li>PT</li> <li>RSP</li> <li>Other:</li> </ul>	<ul> <li>Modeling</li> <li>Prompting</li> <li>Reinforcement</li> <li>Visual Supports</li> <li>Other:</li> </ul>
Strategies Used		Results & Outcom	es	
<ul> <li>Use novel materials change things up in routines and activitie</li> <li>Respond to &amp; comm what the learner is saying/doing</li> <li>Imitate what the leas saying/doing.</li> <li>Expand on what the is saying/doing</li> <li>Give the learner cho</li> <li>Follow the learner's</li> <li>Exaggerate your sou and movements</li> <li>Use PRT</li> <li>Other:</li> </ul>	and familiar es nent on rner is learner ices lead inds			

### **QUESTIONS:**

- 1. How do you think that went?
- 2. Did you encounter any challenges implementing the EBP?
- 3. At which points did you see the EBP working?
- 4. What could you have done differently?
- 5. Do you feel comfortable implementing this EBP?
- 6. Did the learner respond positively to naturally occurring reinforcers?
- 7. Did the learner seem to enjoy the activity?







### **MONITORING PROGRESS CHECKLIST**

Date/Time:

Observer(s):

#### Target Skill/Goal/Behavior:\_\_\_

**Directions:** Complete this checklist to determine if the learner is making progress with using Naturalistic Intervention.

### **MONITORING PROGRESS:**

Has the learner achieved the target goal/behavior/skill?
□ Is the target goal/behavior/skill measurable and observable? Does it clearly state what the target goal/behavior/skill is, when it will occur, and how team members/observers will know it has been mastered?
Is the behavior being targeted during appropriate routines and activities?
Is NI appropriate or a 'good fit' for the target behavior?
Are the NI strategies addressing the target behavior?
Are there potential distractions pulling the learner's attention away from the goal?
Is reinforcement being used with the NI? If so, is the learner aware of reinforcement because of participation in NI? Is the reinforcer still a preferred item for the learner?
Is NI used with fidelity by all team members? (Use the NI Implementation Checklist to determine fidelity.)
igsquare Has the selected EBP been implemented with fidelity by all team members?
Does the learner require additional adaptations/modifications/supports? Such as visual supports or a communication device?
Has monitoring data been collected?
Has using NI been reflected on?







### STEP-BY-STEP GUIDE

This step-by-step practice guide outlines how to plan for, use, and monitor Naturalistic Intervention.

### **BEFORE YOU BEGIN...**

Each of the following points is important to address so that you can be sure Naturalistic Intervention is likely to address the target goal/behavior/skill of your learner on the spectrum.

### HAVE YOU FOUND OUT MORE INFORMATION ABOUT ...?

- □ Identifying the behavior...?
- □ Collecting baseline data through direct observation...?
- Establishing a target goal or outcome that clearly states when the behavior will occur, what the target goal or outcome is, and how team members and/or observers will know when the skill is mastered...?

If the answer to any of the above questions is 'No,' review the process of how to select an appropriate EBP (https://afirm.fpg.unc.edu/selecting-EBP).

For more information about Naturalistic Intervention, please visit https://afirm.fpg.unc.edu/ .

Keep in mind that Naturalistic Intervention can be used to decrease inappropriate behaviors and increase appropriate behaviors.

### **STEP 1: PLANNING FOR NI**

The planning step details the initial steps and considerations involved to prepare for using Naturalistic Intervention with a learner on the spectrum.

- Identify routines and/or activities to target selected behavior Ensure that NI is occurring as part of already occurring routines and activities for the learner.
   Use the respective Routines/Activities Plan to help you identify times to use NI.
- **2. Determine naturally occurring reinforcers during routines/activities** Ensure that there are naturally occurring reinforcers for the learner as part of the routines/activities.

Use the **Reinforcer Sampling & Checklist** to help you identify reinforcers.









#### 3. Collect baseline data during identified routines and/or activities

Collect data on the learner's target behavior during identified routines and activities to make sure that NI is a good fit for the target behavior during the chosen routines and activities.

Use the respective **Baseline Data Collection** to collect a baseline of the target behavior.

#### 4. Select EBP

Choose which EBP(s) will work the best to address the learner's target behavior during routines and activities. Modeling (MD) and prompting (PP) are two EBPs that are often used as part of NI.

Note: Check out the module on MD for more information about this specific process. Note: Check out the module on PP for more information about this specific process.

#### 5. Develop implementation plan

Use information gathered in the first four steps to plan when, how, how often, and who will implement NI. Select strategies to use while implementing NI.

- Use the **NI Strategies** to identify strategies to use with NI.
- Use the **NI Planning Checklist** to help you develop a plan to implement NI.

### 6. Train staff/providers/family members to implement the determined NI

Make sure the entire team has the knowledge and supports necessary to use NI to address the learner's target behavior.

### **STEP 2: USING NI**

This step details the process of implementing Naturalistic Intervention with a learner on the spectrum.

### 1. Arrange environment to elicit target behavior

Be sure that the environment is ready for NI to occur during selected routine/activity. This includes minimizing distractions and making sure the learner is ready to engage.

Use the NI Strategies to identify strategies to use with NI.

### 2. Engage the learner

Use appropriate strategies such as imitating the learner and being animated to ensure that the learner is attending to you and the activity.

Use the **NI Strategies** to identify strategies to use with NI.

### 3. Use selected EBP and planned strategies with the learner

Start using NI with the learner while making sure that the learner is attending and engaged in the intervention.

### 4. Provide naturally occurring reinforcement as appropriate

Make sure that the learner is receiving and responding to the naturally occurring reinforcers as part of the routine and activity. Be consistent with providing the reinforcement.





### **STEP 3: MONITORING NI**

The following step details how to monitor the use of Naturalistic Intervention with a learner on the spectrum and how to determine next steps based on the data.

### 1. Collect and analyze data on target behavior

Collect and look over data collected and discuss with the team how everything is going during implementation. You may problem solve together about encountered barriers while reviewing data.

Use the respective **Data Collection: Log** to record target behaviors.

### 2. Determine next steps based on learner progress

Collecting data will help team members decide about the effectiveness of using Naturalistic Intervention and whether the learner on the spectrum is making progress. If a learner is making progress based upon data collected, team members should continue to use the selected strategies.

If team members determine that the learner is not making progress, consider the following:

- Has the learner achieved the target goal/behavior/skill?
- Is the target goal/behavior/skill measurable and observable? Does it clearly state what the target goal/behavior/skill is, when it will occur, and how team members/observers will know it has been mastered?
- Is the behavior being targeted during appropriate routines and activities?
- Is NI appropriate or a 'good fit' for the target behavior?
- Are the NI strategies addressing the target behavior?
- Are there potential distractions pulling the learner's attention away from the goal?
- Is reinforcement being used with the NI? If so, is the learner aware of reinforcement because of participation in NI? Is the reinforcer still a preferred item for the learner?
- Is NI used with fidelity by all team members? (Use the NI Implementation Checklist to determine fidelity.)
- Has the selected EBP been implemented with fidelity by all team members?
- Does the learner require additional adaptations/modifications/supports? Such as visual supports or a communication device?
- Has monitoring data been collected?
- Has using NI been reflected on?

If these issues have been addressed and the learner on the spectrum continues not to show progress, consider selecting a different evidence-based practice to use with the learner on the spectrum.





### **IMPLEMENTATION CHECKLIST**

### **BEFORE YOU START, HAVE YOU...?**

□ Identifying the target goal/behavior/skill...?

□ Collecting baseline data through direct observation...?

Establishing a target goal or outcome that clearly states when the behavior will occur, what the target goal or outcome is, and how team members and/or observers will know when the skill is mastered...?

If the answer to any of the above questions is 'No,' review the process of how to select an appropriate EBP (https://afirm.fpg.unc.edu/selecting-EBP).

	Observation:	1	2	3	4	5
	Date:					
	Observer's Initials:					
	STEP 1: PLANNING					
1.1	Identify routines and/or activities to target selected behavior					
1.2	Determine reinforcers					
1.3	Collect baseline data during identified routines and/or activities					
1.4	Select EBP(s)					
1.5	Develop implementation plan					
1.6	Train team members					
	STEP 2: USING					
2.1	Arrange environment to elicit target behavior					
2.2	Engage the learner					
2.3	Use selected EBP(s) and planned strategies with the learner					
2.4	Provide naturally occurring reinforcement as appropriate					
	STEP 3: MONITORING					
3.1	Collect and analyze data on target behavior					
3.3	Determine next steps based on learner progress					







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### **TIP SHEET FOR PROFESSIONALS**

### NATURALISTIC INTERVENTION ...

- Is a focused evidence-based practice for children and youth on the spectrum from 0-22 years old that can be implemented in multiple settings.
- Focuses on integrating into already occurring routines and activities with naturally occurring reinforcers

### WHY USE WITH LEARNERS ON THE SPECTRUM?

- NI may increase the hours of intervention received by a learner, as NI are implemented during naturally occurring routines and activities.
- NI can be used to improve learner behavior and social communication skills.



NI

### TIPS:

- If possible, help engage a learner by using the learner's preferred interests and activities or imitating what the learner is doing.
- Remember, NI should occur during routines and activities that already happen!
- Be sure that naturally occurring reinforcements are given.

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INICTOLICTIONIAL OUTCOMES

The evidence-base for Naturalistic Intervention supports its use to address the following outcomes, according to age range, in the table below:

Age	Academic	Adaptive	Behavior	Cognitive	Communication	Joint Attention	Mental Health	Motor	Play	School Readiness	Social
0-2	Yes	Yes	Yes		Yes	Yes	Yes		Yes	Yes	Yes
3-5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6-11			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12-14			Yes		Yes				Yes		Yes
15-18			Yes						Yes		Yes
19-22			Yes						Yes		Yes







#### 1. PLAN

- Work with the team to determine the best course of action including deciding during which activities and routines to incorporate NI, and how to naturally reinforce the learner.
- Decide which EBP will best meet the learner's goals.
- Determine how NI will be implemented and how data will be collected.
- Prepare any necessary materials.

#### 2. USE

- Minimize distractions and set up environment for ideal implementation
- Make sure the learner is engaged and is attending and responding to the naturally occurring reinforcement.

#### 3. MONITOR

- Collect and analyze data
- Determine next steps based on learner progress



#### Naturalistic Intervention NI

This sheet was designed as a supplemental resource to provide basic information about Naturalistic Intervention for professionals working with learners on the spectrum.

For more information about this selected evidence-based practice, please visit https://afirm.fpg.unc.edu/.









### **PARENT'S GUIDE**

### WHAT IS NI?

- Is a focused evidence-based practice for children and youth on the spectrum from 0-22 years old that can be implemented in multiple settings.
- NI is used to help improve child behaviors or skills as part of the learner's everyday routines and activities.

### WHY USE THIS NI WITH MY CHILD?

- NI may help your child better participate in daily routines or activities or learn new skills.
- Research has shown child improvements for very young children in early intervention through children of elementary school age. NI has been used to improve child social communication skills, decrease problem behavior, and to increase child play skills.

### WHAT ACTIVITIES CAN I DO AT HOME?

- Ask your child's intervention team to share with you behaviors being targeted during school.
- Explore with your child's teacher or provider your family's daily routines and activities to determine when it would be most beneficial for you to implement NI. NI should be naturally incorporated into your already existing routines and activities with naturally occurring reinforcement provided.
- Consider using NI to help your child participate more easily in daily routines and activities as well. Often, modeling skills (showing your child what to do) and prompting (giving your child cues such as hand-overhand assistance or telling your child what to do) are used as part of NI to help your child perform specific skills or complete tasks.



#### Naturalistic Intervention NI

This parent introduction to NI was designed as a supplemental resource to help answer questions about Naturalistic Intervention.

To find out more about how this NI is being used with your child, please talk with:

For more information about this selected evidence-based practice, please visit https://afirm.fpg.unc.e du/.









### **ADDITIONAL RESOURCES**

### **BOOKS**:

Bruinsma, Y., Minjarez, M., Schreibman, L., & Stahmer, A. (Eds.). (2019). Naturalistic developmental behavioral interventions for autism spectrum disorder. Brookes Publishing.
 Thompson, T., & Odom, S. (2011). Individualized autism intervention for young children: Blending discrete trial and naturalistic strategies. Paul H. Brookes, Inc. Publisher, Baltimore, MD

#### **WEBSITES:**

Neal-Fox, T. (2017). Using Naturalistic Strategies For Teaching Students with Autism. https://blogs.missouristate.edu/access/2017/10/20/using-naturalistic-strategies-forteaching-students-with-autism/







### **CEC STANDARDS**

### INITIAL PRACTICE-BASED STANDARDS FOR EARLY INTERVENTIONISTS/EARLY CHILDHOOD (0-5 YEARS; CEC, 2020)

#### Standard 6: Using Responsive and Reciprocal Interactions, Interventions, and Instruction

- 6.2 Engage in reciprocal partnerships with families and other professionals to facilitate responsive adult-child interactions, interventions, and instruction in support of child learning and development.
- 6.3 Engage in ongoing planning and use flexible and embedded instructional and environmental arrangements and appropriate materials to support the use of interactions, interventions, and instruction addressing developmental and academic content domains, which are adapted to meet the needs of each and every child and their family.
- 6.4 Promote young children's social and emotional competence and communication, and proactively plan and implement function-based interventions to prevent and address challenging behaviors.
- 6.6 Use responsive interactions, interventions, and instruction with sufficient intensity and types of support across activities, routines, and environments to promote child learning and development and facilitate access, participation, and engagement in natural environments and inclusive settings.

### INITIAL PRACTICE-BASED STANDARDS FOR (GRADES K-12; CEC, 2020):

#### Standard 6: Supporting Social, Emotional, and Behavioral Growth

- 6.1 Use effective routines and procedures to create safe, caring, respectful, and productive learning environments for individuals with exceptionalities.
- 6.2 Use a range of preventive and responsive practices documented as effective to support individuals' social, emotional, and educational well-being.
- 6.3 Systematically use data from a variety of sources to identify the purpose or function served by problem behavior to plan, implement, and evaluate behavioral interventions and social skills programs, including generalization to other environments.







### GLOSSARY

Applied Behavior Analysis - the use of behavioral techniques to teach a learner a new skill

**Antecedent-Based Interventions (ABI)** - Arrangement of events or circumstances that precede an activity or demand in order to increase the occurrence of a behavior or lead to the reduction of the interfering behaviors.

Baseline data - data collected on current performance level prior to implementation of intervention

**Generalization** - when the target skill or behavior continues to occur when the intervention ends, in multiple settings, and with multiple individuals (e.g., peers, teachers, parents)

**Individualized Intervention -** an intervention that is planned and implemented in a way specific to the learner receiving the intervention

Interfering behavior - is a behavior that interferes with the learner's ability to learn

**Modeling (MD)** - Demonstration of a desired target behavior that results in use of the behavior by the child and that leads to the acquisition of the target behavior.

Natural reinforcer - occur naturally as a result of using the target behavior or skill.

**Naturalistic Intervention (NI)** A collection of techniques and strategies that are embedded in typical activities and/or routines in which the learner participates to naturally promote, support, and encourage target skills/behaviors.

**Prompting (PP) -** Verbal, gestural, or physical assistance given to learners to support them in acquiring or engaging in a targeted behavior or skill.

**Prompt** - any help provided that will assist the learner in using specific skills. Prompts can be verbal, gestural, or physical.

**Reinforcer sampling** - helps to identify activities and materials that are motivating to learner. Also known as a preference assessment.

**Reinforcement (R)** - The application of a consequence following a child's use of a response or skills that increases the likelihood that the child will use the response/skills in the future.

**Reinforcers -** increase the likelihood that the target skill/behavior will be used again in the future.

**Room arrangement** - type of visual support that includes arranging the environment in a systematic way.

**Target behavior -** the behavior or skill that is the focus of the intervention. Behavior may need to be increased or decreased.

**Team members** - includes the parents, other primary caregivers, IEP/IFSP team members, teachers, therapists, early intervention providers, and other professionals involved in providing services for the learner.

**Visual Supports (VS)** - A visual display that supports the learner engaging in a desired behavior or skills independent of additional prompts









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