



Autism Focused Intervention
Resources & Modules

This overview
brief will
support your
use of the
evidence-based
practice:
Naturalistic
Intervention.

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information visit:
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NATURALISTIC INTERVENTION (NI) ---EBP Brief Packet---

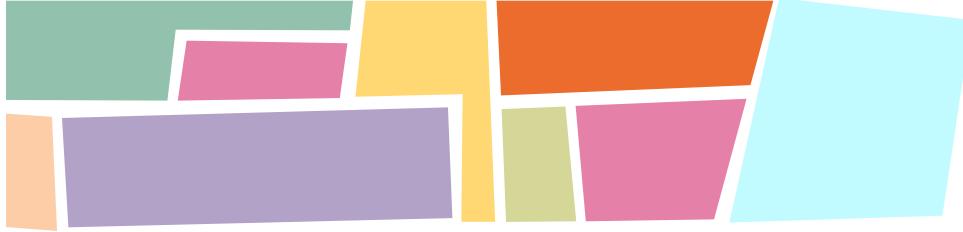
Components of the EBP Brief Packet...

This evidence-based practice overview on Naturalistic Intervention includes the following components:

1. **Overview:** A quick summary of salient features of the practice, including what it is, who it can be used with, what skills it has been used with, and settings for instruction.
2. **Evidence-base:** The *NI Evidence-base* details the NPDC criteria for inclusion as an evidence-based practice and the specific studies that meet the criteria for this practice.
3. **Step-by-Step Guide:** Use the *NI Step-by-Step Practice Guide* as an outline for how to plan for, use, and monitor NI. Each step includes a brief description as a helpful reminder while learning the process.
4. **Implementation Checklist:** Use the *NI Implementation Checklist* to determine if the practice is being implemented as intended.
5. **Data Collection Sheets:** Use the data collection sheets as a method to collect and analyze data to determine if progress is being made for a learner with ASD.
6. **Tip Sheet for Professionals:** Use the *NI Tip Sheet for Professionals* as a supplemental resource to help provide basic information about the practice to professionals working with the learner with ASD.
7. **Parent Guide:** Use the *NI Parent Guide* to help parents or family members understand basic information about the practice being used with their child.
8. **Additional Resources:** Use the *Additional Resources* to learn more about the practice.
9. **CEC Standards:** A list of *CEC Standards* that apply specifically to NI.
10. **Module References:** A list of numerical *References* utilized for the NI module.

Suggested citation:

Amsbary, J., & AFIRM Team. (2017). *Naturalistic intervention*. Chapel Hill, NC: National Professional Development Center on Autism Spectrum Disorders, FPG Child Development Center, University of North Carolina. Retrieved from <http://afirm.fpg.unc.edu/naturalistic-intervention>



NATURALISTIC INTERVENTION (NI)

What is NI?

Naturalistic intervention (NI) originates from applied behavior analysis, which is the use of behavioral techniques to teach learners specific skills. Naturalistic intervention (NI) integrates the principles of applied behavior analysis (ABA) into the natural environment, or into a learner's everyday routines and activities so that the acquired skills may be more easily generalized.

Evidence-base

Naturalistic intervention meets the evidence-based practice criteria set by NPDC with 10 single case design studies. The practice has been effective with learners in early intervention (0-2 years) to elementary school learners (6-11 years). Evidence-based practices (EBP) and studies included in the 2014 EBP report detailed how naturalistic intervention can be used effectively to address: social, communication, joint attention, behavior, and academic outcomes.

How Is NI Being Used?

NI 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 NI in the home.

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---Evidence-base for Naturalistic Intervention---

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The National Professional Development Center on ASD has adopted the following criteria to determine if a practice is evidence-based. The EBP Report provides more information about the review process (Wong et al., 2014).

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

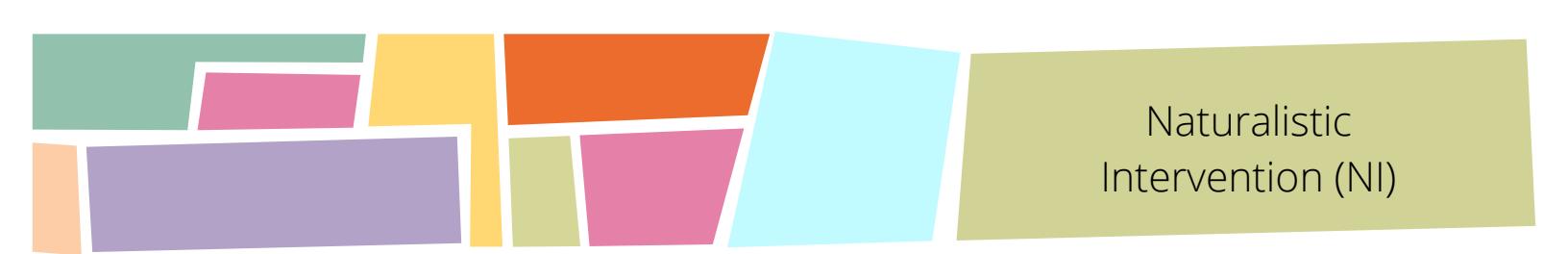
- randomized or quasi-experimental design studies (two high quality experimental or quasi-experimental group design studies),
- single-subject design studies (three different investigators or research groups must have conducted five high quality single subject design studies), or
- combination of evidence [one high quality randomized or quasi-experimental group design study and three high quality single subject design studies conducted by at least three different investigators or research groups (across the group and single subject design studies)].

--OVERVIEW--

Naturalistic intervention (NI) integrates the principles of ABA into the natural environment or into a learner's everyday routines and activities so that the acquired skills may be more easily generalized. Naturalistic intervention meets the evidence-based practice criteria with 10 single case design studies. The practice has been effective with learners in early intervention (0-2 years) to elementary school learners (6-11 years). Studies included in the 2014 EBP report detailed how naturalistic interventions can be used effectively to address: social, communication, joint attention, behavior, and academic outcomes.

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

Early Intervention (0-2)	Preschool (3-5)	Elementary (6-11)	Middle (12-14)	High (15-22)
Social	Social	Social	No studies	No studies
Communication	Communication	Communication		
	Joint Attention			
	Behavior			
	Play			
Academic	Academic			



Naturalistic Intervention (NI)

Early intervention (0-2 years)

*Ingersoll, B., Dvortcsak, A., Whalen, C., & Sikora, D. (2005). The effects of a developmental, social—Pragmatic language intervention on rate of expressive language production in young children with autistic spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, 20(4), 213-222. doi: 10.1177/10883576050200040301

Preschool (3-5 years)

Hancock, T. B., & Kaiser, A. P. (2002). The effects of trainer-implemented enhanced milieu teaching on the social communication of children with autism. *Topics in Early Childhood Special Education*, 22(1), 39-54. doi: 10.1177/027112140202200104

*Ingersoll, B., Dvortcsak, A., Whalen, C., & Sikora, D. (2005). The effects of a developmental, social—Pragmatic language intervention on rate of expressive language production in young children with autistic spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, 20(4), 213-222. doi: 10.1177/10883576050200040301

*Koegel, L. K., Carter, C. M., & Koegel, R. L. (2003). Teaching children with autism self-initiations as a pivotal response. *Topics in Language Disorders*, 23(2), 134-145. doi: 10.1097/00011363-200304000-00006

*Koegel, R. L., Camarata, S., Koegel, L. K., Ben-Tall, A., & Smith, A. E. (1998). Increasing speech intelligibility in children with autism. *Journal of Autism and Developmental Disorders*, 28(3), 241-251. doi: 10.1023/A:1026073522897

Koegel, R. L., Koegel, L. K., & Surratt, A. (1992). Language intervention and disruptive behavior in preschool children with autism. *Journal of Autism and Developmental Disorders*, 22(2), 141-153. doi: 10.1007/BF01058147

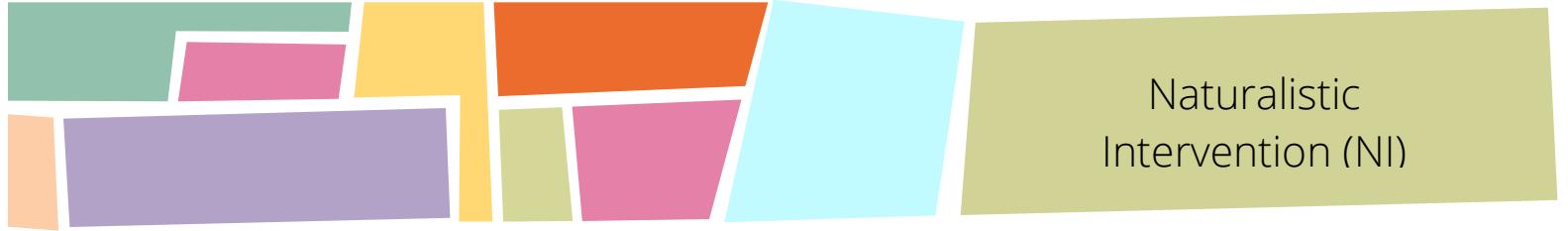
Kohler, F. W., Anthony, L. J., Steighner, S. A., & Hoyson, M. (2001). Teaching social interaction skills in the integrated preschool an examination of naturalistic tactics. *Topics in Early Childhood Special Education*, 21(2), 93-103. doi: 10.1177/027112140102100203

McGee, G. G., & Daly, T. (2007). Incidental teaching of age-appropriate social phrases to children with autism. *Research and Practice for Persons with Severe Disabilities*, 32(2), 112-123. doi: 10.2511/rpsd.32.2.112

Olive, M. L., De la Cruz, B., Davis, T.N., Chan, J.M., Lang, R.B., O'Reilly, M.F., & Dickson, S.M. (2007). The effects of enhanced milieu teaching and a voice output communication aid on the requesting of three children with autism. *Journal of Autism and Developmental Disorders*, 37, 1505-1513. doi: 10.1007/s10803-006-0243-6

Seiverling, L., Pantelides, M., Ruiz, H. H., & Sturmey, P. (2010). The effect of behavioral skills training with general - case training on staff chaining of child vocalizations within natural language paradigm. *Behavioral Interventions*, 25(1), 53-75. doi: 10.1002/bin.293

Whalen, C., & Schreibman, L. (2003). Joint attention training for children with autism using behavior modification procedures. *Journal of Child Psychology and Psychiatry*, 44(3), 456-468. doi: 10.1111/1469-7610.00135



Naturalistic Intervention (NI)

Elementary (6-11 years)

*Koegel, L. K., Carter, C. M., & Koegel, R. L. (2003). Teaching children with autism self-initiations as a pivotal response. *Topics in Language Disorders*, 23(2), 134-145. doi: 10.1097/00011363-200304000-00006

*Koegel, R. L., Camarata, S., Koegel, L. K., Ben-Tall, A., & Smith, A. E. (1998). Increasing speech intelligibility in children with autism. *Journal of Autism and Developmental Disorders*, 28(3), 241-251. doi: 10.1023/A:1026073522897

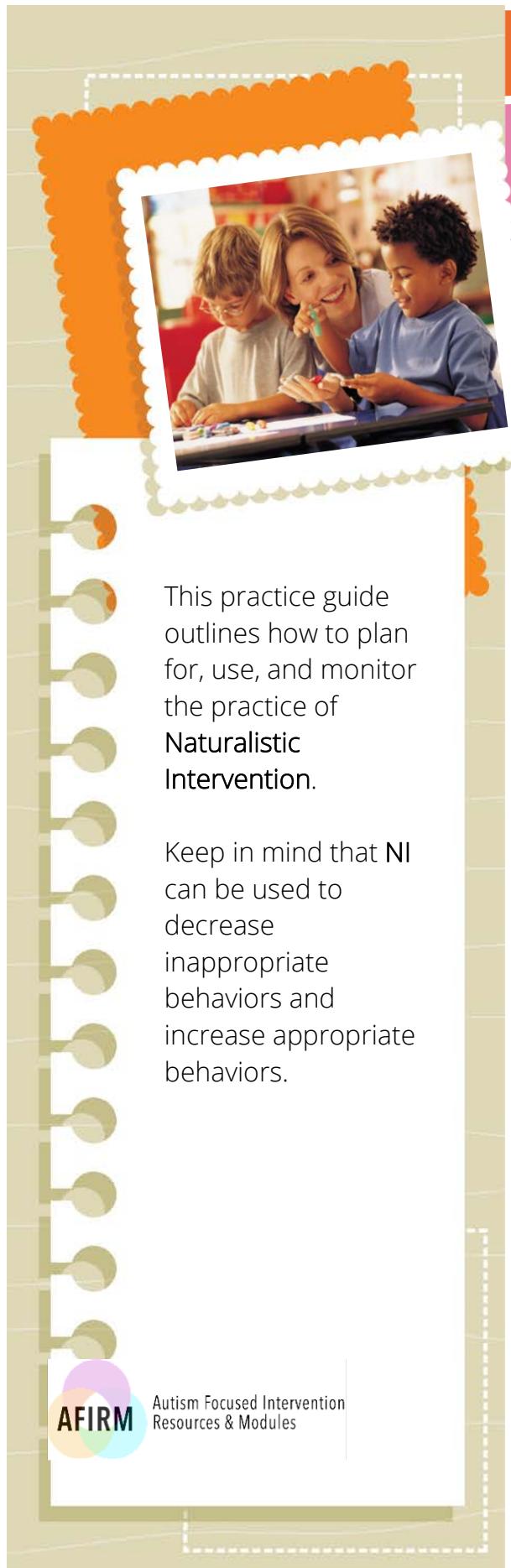
Middle (12-14 years)

No studies

High (15-22 years)

No studies

* Research which included participants in multiple age ranges.



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Naturalistic Intervention (NI) ---Step-by-Step Guide---

BEFORE YOU START...

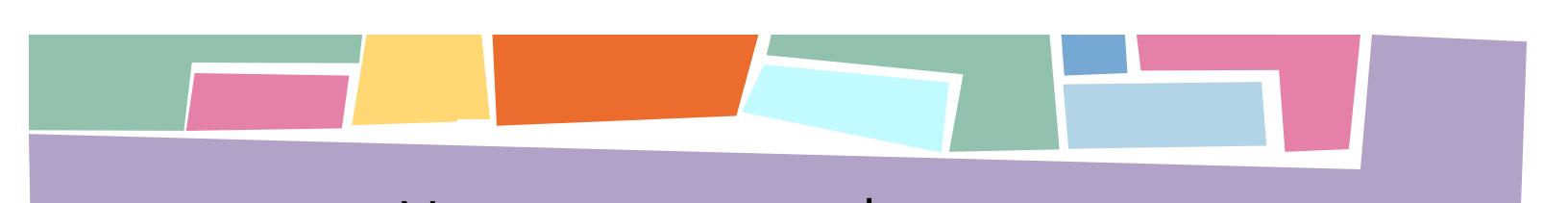
Each of the following points is important to address so that you can be sure the selected EBP is likely to address the learning needs of your student.

Have you found out more information about. . .?

- Established a goal or outcome that clearly states when the behavior will occur, what the target skill is, and how the team will know when the skill is mastered...
- Identifying evidence-based practices...

If the answer to any of these is "no," review the process of how to select an EBP.

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Now you are ready to start...

Step 1: Planning

The planning step explains initials steps and considerations involved when using NI as an intervention for a learner.

1.1 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 NI Routines Determination Form - Home to help you identify times to use NI at home.*
-  *Use the NI Routines Determination Form - School to help you identify times to use NI at school.*

1.2 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 NI Reinforcer Checklist to help you identify reinforcers.*

1.3 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 NI Baseline Data Collection - Home to collect a baseline of the target behavior at home.*
-  *Use the NI Baseline Data Collection - School to collect a baseline of the target behavior at school.*

1.4 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.

1.5 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 Table to identify strategies to use with NI.*
-  *Use the NI Planning Worksheet to help you develop a plan to implement NI.*

1.6 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

This section describes the process of implementing NI, including the delivery of reinforcers.

2.1 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 Table to identify strategies to use with NI.*

2.2 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 Table to identify strategies to use with NI.*

2.3 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.

2.4 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

The following process describes how NI can be monitored and how this data can be used to guide further support the learner.

3.1 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 NI Date Log - Home to monitor the learner's progress at home.*

 *Use the NI Date Log - School to monitor the learner's progress at school.*

Step 3: Monitoring (continued)

3.2 Determine next steps based on learner's progress

Decide with the team when a learner has mastered a skill or behavior and what the next steps should be.

If the learner with ASD is showing progress, then continue to use naturalistic intervention.

If the learner with ASD is not showing progress with naturalistic intervention, ask yourself the following questions:

- Is the target behavior well defined?
- Is the target behavior measurable and observable?
- Is the behavior targeted during appropriate routines and activities?
- Is NI appropriate or a 'good fit' for the target behavior?
- Are there distractions holding the learner's attention?
- Are the NI strategies addressing the target behavior?
- Was naturalistic intervention used with fidelity? (Use the NI Implementation Checklist to determine fidelity.)
- Are reinforcers used motivating to the learner?

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



Naturalistic Intervention (NI)

---Implementation Checklist---

Before you start:

Have you...

- Identified the behavior?
- Collected baseline data through direct observation?
- Established a goal or outcome that clearly states **when** the behavior will occur, **what** the target skill is, and **how** the team will know when the skill is mastered.

If the answer to any of these is "no", refer to the "Selecting EBPs" section on the website.

	Observation Date Observer's Initials	1	2	3	4
Step 1: Planning					
1.1 Identify routines and/or activities to target selected behavior					
1.2 Determine naturally occurring reinforcers during routines/activities					
1.3 Collect baseline data during identified routines and/or activities					
1.4 Select EBP(s)					
1.5 Develop implementation plan					
1.6 Train staff/providers/family members to implement NI					
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					
3.2 Determine next steps based on learner's progress					



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---NI Strategies---

Learner's Name: _____

Date/Time: _____

Observer(s): _____

In making decisions regarding the implementation plan, you might consider which of the strategies might be helpful, along with the EBP(s) that you have chosen to use as part of NI.

Implementation Strategies to Support Naturalistic Intervention

Strategy	Examples	Use Strategy...
<i>Use novel materials and change things up in familiar routines and activities.²⁻⁴</i>	<ul style="list-style-type: none"> • 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) 	To set up the environment and to engage a learner if he/she does not seem interested in playing with you or seems to be bored during an activity
<i>Respond to & comment on what the learner is saying/doing.²⁻⁵</i>	<ul style="list-style-type: none"> • "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 	To help the learner engage with you while playing
<i>Imitate what the learner is saying/doing.¹</i>	<ul style="list-style-type: none"> • 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 	To draw the learner's attention to you
<i>Expand on what the learner is saying/doing.²</i>	<ul style="list-style-type: none"> • 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) 	To keep the learner engaged following the start of an activity
<i>Give the learner choices.⁵⁻⁶</i>	<ul style="list-style-type: none"> • Offer choices to the learner with play items and food 	To encourage learner engagement and communication
<i>Follow the learner's lead.^{4,7-8}</i>	<ul style="list-style-type: none"> • Get down on the same level as the learner and play with what the learner is playing with 	To help the learner remain engaged and interested in the activity
<i>Exaggerate your sounds and movements.⁴</i>	<ul style="list-style-type: none"> • Be loud and silly while playing with/working with the learner 	To draw the learner's attention to you

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---NI Baseline Data Collection - Home---

Learner's Name: _____

Date/Time: _____

Observer(s): _____

Begin by observing the learner and their use of the target skill during the determined routines and activities.

Target Behavior or Skill	Date / Time	Routine/Activity (check)	Observed Target Behavior	Good Fit for NI?
		<input type="checkbox"/> Mealtime <input type="checkbox"/> Family Outing <input type="checkbox"/> Dressing <input type="checkbox"/> Bedtime <input type="checkbox"/> Playtime <input type="checkbox"/> Bath time <input type="checkbox"/> Other:		<input type="checkbox"/> Yes <input type="checkbox"/> Maybe <input type="checkbox"/> No
		<input type="checkbox"/> Mealtime <input type="checkbox"/> Family Outing <input type="checkbox"/> Dressing <input type="checkbox"/> Bedtime <input type="checkbox"/> Playtime <input type="checkbox"/> Bath time <input type="checkbox"/> Other:		<input type="checkbox"/> Yes <input type="checkbox"/> Maybe <input type="checkbox"/> No
		<input type="checkbox"/> Mealtime <input type="checkbox"/> Family Outing <input type="checkbox"/> Dressing <input type="checkbox"/> Bedtime <input type="checkbox"/> Playtime <input type="checkbox"/> Bath time <input type="checkbox"/> Other:		<input type="checkbox"/> Yes <input type="checkbox"/> Maybe <input type="checkbox"/> No

Additional Notes:

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---NI Baseline Data Collection - School---

Learner's Name: _____

Date/Time: _____

Observer(s): _____

Begin by observing the learner and their use of the target skill during the determined routines and activities.

Target Behavior or Skill	Date / Time	Routine/Activity (check)	Observed Target Behavior	Good Fit for NI?
		<input type="checkbox"/> Circle time <input type="checkbox"/> Lunch time <input type="checkbox"/> Snack time <input type="checkbox"/> Recess <input type="checkbox"/> Academics <input type="checkbox"/> Class outing <input type="checkbox"/> Other: _____		<input type="checkbox"/> Yes <input type="checkbox"/> Maybe <input type="checkbox"/> No
		<input type="checkbox"/> Circle time <input type="checkbox"/> Lunch time <input type="checkbox"/> Snack time <input type="checkbox"/> Recess <input type="checkbox"/> Academics <input type="checkbox"/> Class outing <input type="checkbox"/> Other: _____		<input type="checkbox"/> Yes <input type="checkbox"/> Maybe <input type="checkbox"/> No
		<input type="checkbox"/> Circle time <input type="checkbox"/> Lunch time <input type="checkbox"/> Snack time <input type="checkbox"/> Recess <input type="checkbox"/> Academics <input type="checkbox"/> Class outing <input type="checkbox"/> Other: _____		<input type="checkbox"/> Yes <input type="checkbox"/> Maybe <input type="checkbox"/> No

Additional Notes:

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---NI Baseline Data Collection - School---

Learner's Name: Lillian

Date/Time: _____

Observer(s): Dan

Begin by observing the learner and their use of the target skill during the determined routines and activities.

Target Behavior or Skill	Date / Time	Routine/Activity (check)	Observed Target Behavior	Good Fit for NI?
Decrease tantrums and engage in play activities	3/17 12:30 pm	<input type="checkbox"/> Circle time <input type="checkbox"/> Lunch time <input type="checkbox"/> Snack time <input checked="" type="checkbox"/> Recess <input type="checkbox"/> Academics <input type="checkbox"/> Class outing <input type="checkbox"/> Other:	Lillian ran around the playground until a group of girls came up to her and interacted. Following this interaction	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Maybe <input type="checkbox"/> No
Decrease tantrums and engage in play activities	3/19 10:00 am	<input type="checkbox"/> Circle time <input type="checkbox"/> Lunch time <input type="checkbox"/> Snack time <input type="checkbox"/> Recess <input type="checkbox"/> Academics <input type="checkbox"/> Class outing <input checked="" type="checkbox"/> Other: Gym	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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Maybe <input type="checkbox"/> 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.				

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---NI Baseline Data Collection - School---

Learner's Name: Monique

Date/Time: _____

Observer(s): _____

Begin by observing the learner and his or her use of the target skill during the determined routines and activities.

Target Behavior or Skill	Date / Time	Routine/Activity (check)	Observed Target Behavior	Good Fit for NI?
Use one or two words to request	10/17 10:30 am	<input type="checkbox"/> Circle time <input type="checkbox"/> Lunch time <input type="checkbox"/> Snack time <input type="checkbox"/> Recess <input type="checkbox"/> Academics <input type="checkbox"/> Class outing <input checked="" type="checkbox"/> Other: Playtime	Monique did not use her words to request She repeated phrases from Doc McStuffins TV show Played primarily in the pretend doctor's office	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Maybe <input type="checkbox"/> No
Use one or two words to request	10/20 2:00 pm	<input type="checkbox"/> Circle time <input type="checkbox"/> Lunch time <input type="checkbox"/> Snack time <input type="checkbox"/> Recess <input type="checkbox"/> Academics <input type="checkbox"/> Class outing <input checked="" type="checkbox"/> Other: Playtime	No words to request Found a Doc McStuffins book in book center and looked at it the entire playtime	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Maybe <input type="checkbox"/> No

Additional Notes:

Monique shows a strong preference for Doc McStuffins.

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AFIRMAutism Focused Intervention
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Learner's Name: _____

Date/Time: _____

Observer(s): _____

Target Behavior: _____

Selected EBP(s)	<input type="checkbox"/> Modeling <input type="checkbox"/> Prompting <input type="checkbox"/> Other:		
Routines and Activities to Try EBP(s)	School: <input type="checkbox"/> Circle time <input type="checkbox"/> Lunch time <input type="checkbox"/> Snack time <input type="checkbox"/> Recess	<input type="checkbox"/> Academics <input type="checkbox"/> Class outing <input type="checkbox"/> Other:	Home: <input type="checkbox"/> Mealtime <input type="checkbox"/> Family Outing <input type="checkbox"/> Dressing <input type="checkbox"/> Bedtime <input type="checkbox"/> Playtime <input type="checkbox"/> Bath time <input type="checkbox"/> Other:
Staff and family members to be trained to implement NI	School: <input type="checkbox"/> Teacher <input type="checkbox"/> Teacher Assistant <input type="checkbox"/> OT <input type="checkbox"/> SLP	<input type="checkbox"/> Other Related Service <input type="checkbox"/> Other:	Home: <input type="checkbox"/> Parent <input type="checkbox"/> Parent <input type="checkbox"/> OT <input type="checkbox"/> SLP <input type="checkbox"/> Other Related Service <input type="checkbox"/> Other:
Strategies to incorporate into NI	<input type="checkbox"/> Using novel materials and changing things up <input type="checkbox"/> Responding to and commenting on what the learner is saying/doing <input type="checkbox"/> Imitating what the learner is doing/saying <input type="checkbox"/> Expanding on what the learner is saying/doing <input type="checkbox"/> Giving the learner choices <input type="checkbox"/> Following the learner's lead <input type="checkbox"/> Exaggerating your sounds and movements <input type="checkbox"/> Other:		
Additional Notes			

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---NI Planning Worksheet---

Learner's Name: Marco

Date/Time: _____

Observer(s): _____

Target Behavior: Participate in classroom activities

Selected EBP(s)	<input checked="" type="checkbox"/> 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
Routines and Activities to Try EBP(s)	School: <input checked="" type="checkbox"/> Circle time
Staff and family members to be trained to implement NI	School: <input checked="" type="checkbox"/> Teacher Assistant <input checked="" type="checkbox"/> OT <input checked="" type="checkbox"/> SLP
Strategies to incorporate into NI	<input checked="" type="checkbox"/> Using novel materials and changing things up - move Marco's carpet square, mix up words in familiar songs <input checked="" type="checkbox"/> Responding to and commenting on what the learner is saying/doing <input type="checkbox"/> Imitating what the learner is doing/saying <input type="checkbox"/> Expanding on what the learner is saying/doing <input checked="" type="checkbox"/> Giving the learner choices - increase variety of song choices and allow Marco to choose <input type="checkbox"/> Following the learner's lead <input checked="" type="checkbox"/> Exaggerating your sounds and movements <input type="checkbox"/> Other:
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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---NI Planning Worksheet---

Learner's Name: Monique

Date/Time: _____

Observer(s): _____

Target Behavior: To use single words to request one or two toys from an adult during playtime

Selected EBP(s)	<input checked="" type="checkbox"/> Modeling - Model the single words that Monique might use to request her preferred items (Doc McStuffins toys in the pretend doctor's office & Doc McStuffins book in the book center)
Routines and Activities to Try EBP(s)	School: <input checked="" type="checkbox"/> Other: <u>Playtime: Pretend Doctor's office; Book Center</u>
Staff and family members to be trained to implement NI	School: <input checked="" type="checkbox"/> Teacher Assistant <input checked="" type="checkbox"/> SLP
Strategies to incorporate into NI	<input checked="" type="checkbox"/> Using novel materials and changing things up - add some Doc McStuffins specific tools and characters to the doctor's office <input type="checkbox"/> Responding to and commenting on what the learner is saying/doing <input type="checkbox"/> Imitating what the learner is doing/saying <input type="checkbox"/> Expanding on what the learner is saying/doing <input checked="" type="checkbox"/> Giving the learner choices - give Monique choices in the book center (one Doc book, and another book) <input checked="" type="checkbox"/> Following the learner's lead <input type="checkbox"/> Exaggerating your sounds and movements <input type="checkbox"/> Other:
Additional Notes	Be sure to make sure the Doc McStuffins items are not too distracting. we want Monique to be able to engage with an adult in addition to the Doc McStuffins toys in order to use her words to request.

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AFIRMAutism Focused Intervention
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Learner's Name: _____

Date/Time: _____

Observer(s): _____

Use the reinforcer checklist to help identify appropriate reinforcers. This list includes some generic items/foods/interests, but keep in mind that a reinforcer may be anything that is interesting and motivating to the learner.

Foods for Snacks/Mealtime Routines:

<input type="checkbox"/> Goldfish	<input type="checkbox"/> French Fries	<input type="checkbox"/> Ice Cream
<input type="checkbox"/> Pizza	<input type="checkbox"/> Pretzels	<input type="checkbox"/>
<input type="checkbox"/> Chicken Nuggets	<input type="checkbox"/> Chips	<input type="checkbox"/>
<input type="checkbox"/> Fruit	<input type="checkbox"/> Cheese	<input type="checkbox"/>

Games for Play/Recess Routines:

<input type="checkbox"/> Peek-a-boo	<input type="checkbox"/> Pat-a-Cake	<input type="checkbox"/>
<input type="checkbox"/> Chase	<input type="checkbox"/> Tickle games	<input type="checkbox"/>
<input type="checkbox"/> Burrito games with a blanket	<input type="checkbox"/>	<input type="checkbox"/>

Toys for Play/Recess Routines:

<input type="checkbox"/> Trains and Cars	<input type="checkbox"/> Computer	<input type="checkbox"/> Books
<input type="checkbox"/> Legos	<input type="checkbox"/> Puzzles	<input type="checkbox"/>
<input type="checkbox"/> Remote controls	<input type="checkbox"/> Noisy toys	<input type="checkbox"/>
<input type="checkbox"/> Phones	<input type="checkbox"/> Doll house	<input type="checkbox"/>

Special Interests for Activities/Routines:

<input type="checkbox"/> Movie:	<input type="checkbox"/> TV Show:	<input type="checkbox"/> Real-Life Person:
<input type="checkbox"/> Movie Character:	<input type="checkbox"/> TV Show Character:	<input type="checkbox"/> Video Game:
<input type="checkbox"/> Letters	<input type="checkbox"/> Cars, Trains, Trucks	<input type="checkbox"/> Music
<input type="checkbox"/> Numbers	<input type="checkbox"/> Dinosaurs	<input type="checkbox"/> Computers/Technology
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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---NI Routines Determination - Home---

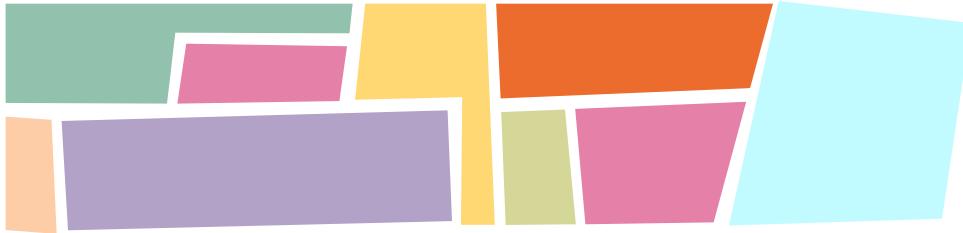
Learner's Name: _____

Date/Time: _____

Observer(s): _____

Consider using this form to determine when to implement NI at home.

Routine/ Activity	Child Enjoyment Level (circle)	Barriers / Struggles?	Transition Ease Into? (circle) Transition Ease Out? (circle)	Good Fit for NI? (circle)
Morning Routines				
Wake Up	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Dressing	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Mealtime	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Brush Teeth	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Other:	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Additional Notes:				
Afternoon Routines				
Playtime	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Mealtime	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Nap	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Other:	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Additional Notes:				



Naturalistic Intervention (NI)

Routine/ Activity	Child Enjoyment Level (circle)	Barriers/ Struggles?	Transition Ease Into? (circle) Transition Ease Out? (circle)	Good Fit for NI?
Evening Routines				
Mealtime	☹ ☻ ☺		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Brush Teeth	☹ ☻ ☺		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Bath time	☹ ☻ ☺		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Dressing	☹ ☻ ☺		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Bedtime Story	☹ ☻ ☺		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Bedtime	☹ ☻ ☺		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Other	☹ ☻ ☺		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Additional Notes:				

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---NI Routines Determination - School---

Learner's Name: _____

Date/Time: _____

Observer(s): _____

Consider using this form to determine when to implement NI in school.

Routine / Activity	Child Enjoyment Level (circle)	Barriers / Struggles?	Transition Ease Into? (circle) Transition Ease Out? (circle)	Good Fit for NI? (circle)
Morning Routines				
Drop Off	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Play Time	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Mealtimes	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Circle/Group Time	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Academics:	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Academics:	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Specials (music, art, gym...):	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Specials (music, art, gym...):	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Other:	(sad) (neutral) (smile)		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Additional Notes:				

Routine / Activity	Child Enjoyment Level (circle)	Barriers/ Struggles?	Transition Ease Into? (circle) Transition Ease Out? (circle)	Good Fit for NI?
Afternoon Routines				
Mealtime	😊 😐 😊		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Circle/Group Time	😊 😐 😊		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Recess	😊 😐 😊		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Nap	😊 😐 😊		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Playtime	😊 😐 😊		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	Yes Maybe No
Specials (music, art, gym...):	😊 😐 😊		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Academics:	😊 😐 😊		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Academics:	😊 😐 😊		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Pick Up / After-School	😊 😐 😊		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Other:	😊 😐 😊		Into: NA rough so-so smooth Out: NA rough so-so smooth	Yes Maybe No
Additional Notes:				

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---NI Data Log - Home---

Learner's Name: _____

Date/Time: _____

Observer(s): _____

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 Skill	Date / Time	Routine/Activity (check)	Implementer (check)	EBPs & Strategies Used (check)
		<input type="checkbox"/> Mealtime <input type="checkbox"/> Family <input type="checkbox"/> Outing <input type="checkbox"/> Dressing <input type="checkbox"/> Bedtime <input type="checkbox"/> Playtime <input type="checkbox"/> Bath <input type="checkbox"/> time <input type="checkbox"/> Other:	<input type="checkbox"/> Mom <input type="checkbox"/> Dad <input type="checkbox"/> Grandma <input type="checkbox"/> Grandpa <input type="checkbox"/> Caregiver <input type="checkbox"/> Other:	EBP: <input type="checkbox"/> Modeling <input type="checkbox"/> Prompting <input type="checkbox"/> Other: Strategies: <input type="checkbox"/> Use novel materials and change things up in familiar routines and activities. ²⁻⁴ <input type="checkbox"/> Respond to & comment on what the learner is saying/doing. ²⁻⁵ <input type="checkbox"/> Imitate what the learner is saying/doing. ¹ <input type="checkbox"/> Expand on what the learner is saying/doing. ² <input type="checkbox"/> Give the learner choices. ⁵⁻⁶ <input type="checkbox"/> Follow the learner's lead. ^{4,7-8} <input type="checkbox"/> Exaggerate your sounds and movements. ⁴ <input type="checkbox"/> Other:
		<input type="checkbox"/> Mealtime <input type="checkbox"/> Family <input type="checkbox"/> Outing <input type="checkbox"/> Dressing <input type="checkbox"/> Bedtime <input type="checkbox"/> Playtime <input type="checkbox"/> Bath <input type="checkbox"/> time <input type="checkbox"/> Other:	<input type="checkbox"/> Mom <input type="checkbox"/> Dad <input type="checkbox"/> Grandma <input type="checkbox"/> Grandpa <input type="checkbox"/> Caregiver <input type="checkbox"/> Other:	EBP: <input type="checkbox"/> Modeling <input type="checkbox"/> Prompting <input type="checkbox"/> Other: Strategies: <input type="checkbox"/> Use novel materials and change things up in familiar routines and activities. ²⁻⁴ <input type="checkbox"/> Respond to & comment on what the learner is saying/doing. ²⁻⁵ <input type="checkbox"/> Imitate what the learner is saying/doing. ¹ <input type="checkbox"/> Expand on what the learner is saying/doing. ² <input type="checkbox"/> Give the learner choices. ⁵⁻⁶ <input type="checkbox"/> Follow the learner's lead. ^{4,7-8} <input type="checkbox"/> Exaggerate your sounds and movements. ⁴ <input type="checkbox"/> Other:

Results & Outcomes:

Results & Outcomes:

Target Behavior or Skill	Date / Time	Routine/Activity (check)	Implementer (check)	EBPs & Strategies Used (check)
		<input type="checkbox"/> Mealtime <input type="checkbox"/> Family Outing <input type="checkbox"/> Dressing <input type="checkbox"/> Bedtime <input type="checkbox"/> Playtime <input type="checkbox"/> Bath time <input type="checkbox"/> Other:	<input type="checkbox"/> Mom <input type="checkbox"/> Dad <input type="checkbox"/> Grandma <input type="checkbox"/> Grandpa <input type="checkbox"/> Caregiver <input type="checkbox"/> Other:	EBP: <input type="checkbox"/> Modeling <input type="checkbox"/> Prompting <input type="checkbox"/> Other: Strategies: <input type="checkbox"/> Use novel materials and change things up in familiar routines and activities. ²⁻⁴ <input type="checkbox"/> Respond to & comment on what the learner is saying/doing. ²⁻⁵ <input type="checkbox"/> Imitate what the learner is saying/doing. ¹ <input type="checkbox"/> Expand on what the learner is saying/doing. ² <input type="checkbox"/> Give the learner choices. ⁵⁻⁶ <input type="checkbox"/> Follow the learner's lead. ^{4,7-8} <input type="checkbox"/> Exaggerate your sounds and movements. ⁴ <input type="checkbox"/> Other:
Results & Outcomes:				
Additional Notes: How do you think that went? Did you encounter any challenges implementing the EBP? At which points did you see the EBP working? What could you have done differently? Do you feel comfortable implementing this EBP? Did the learner respond positively to naturally occurring reinforcers? Did the learner seem to enjoy the activity? Other Notes:				

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---NI Data Log - School---

Learner's Name: _____

Date/Time: _____

Observer(s): _____

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 Skill	Date / Time	Routine/Activity (check)	Implementer (check)	EBPs & Strategies Used (check)
		<input type="checkbox"/> Circle time <input type="checkbox"/> Lunch time <input type="checkbox"/> Snack time <input type="checkbox"/> Recess <input type="checkbox"/> Academics <input type="checkbox"/> Class outing <input type="checkbox"/> Other:	<input type="checkbox"/> Teacher <input type="checkbox"/> TA <input type="checkbox"/> SLP <input type="checkbox"/> OT <input type="checkbox"/> PT <input type="checkbox"/> Other:	EBP: <input type="checkbox"/> Modeling <input type="checkbox"/> Prompting <input type="checkbox"/> Other: Strategies: <input type="checkbox"/> Use novel materials and change things up in familiar routines and activities. ²⁻⁴ <input type="checkbox"/> Respond to & comment on what the learner is saying/doing. ²⁻⁵ <input type="checkbox"/> Imitate what the learner is saying/doing. ¹ <input type="checkbox"/> Expand on what the learner is saying/doing. ² <input type="checkbox"/> Give the learner choices. ⁵⁻⁶ <input type="checkbox"/> Follow the learner's lead. ^{4,7-8} <input type="checkbox"/> Exaggerate your sounds and movements. ⁴ <input type="checkbox"/> Other:
		<input type="checkbox"/> Circle time <input type="checkbox"/> Lunch time <input type="checkbox"/> Snack time <input type="checkbox"/> Recess <input type="checkbox"/> Academics <input type="checkbox"/> Class outing <input type="checkbox"/> Other:	<input type="checkbox"/> Teacher <input type="checkbox"/> TA <input type="checkbox"/> SLP <input type="checkbox"/> OT <input type="checkbox"/> PT <input type="checkbox"/> Other:	EBP: <input type="checkbox"/> Modeling <input type="checkbox"/> Prompting <input type="checkbox"/> Other: Strategies: <input type="checkbox"/> Use novel materials and change things up in familiar routines and activities. ²⁻⁴ <input type="checkbox"/> Respond to & comment on what the learner is saying/doing. ²⁻⁵ <input type="checkbox"/> Imitate what the learner is saying/doing. ¹ <input type="checkbox"/> Expand on what the learner is saying/doing. ² <input type="checkbox"/> Give the learner choices. ⁵⁻⁶ <input type="checkbox"/> Follow the learner's lead. ^{4,7-8} <input type="checkbox"/> Exaggerate your sounds and movements. ⁴ <input type="checkbox"/> Other:

Results & Outcomes:

Results & Outcomes:

Target Behavior or Skill	Date / Time	Routine/Activity (check)	Implementer (check)	EBPs & Strategies Used (check)
		<input type="checkbox"/> Circle time <input type="checkbox"/> Lunch time <input type="checkbox"/> Snack time <input type="checkbox"/> Recess <input type="checkbox"/> Academics <input type="checkbox"/> Class outing <input type="checkbox"/> Other:	<input type="checkbox"/> Teacher <input type="checkbox"/> TA <input type="checkbox"/> SLP <input type="checkbox"/> OT <input type="checkbox"/> PT <input type="checkbox"/> Other::	EBP: <input type="checkbox"/> Modeling <input type="checkbox"/> Prompting <input type="checkbox"/> Other: Strategies: <input type="checkbox"/> Use novel materials and change things up in familiar routines and activities. ²⁻⁴ <input type="checkbox"/> Respond to & comment on what the learner is saying/doing. ²⁻⁵ <input type="checkbox"/> Imitate what the learner is saying/doing. ¹ <input type="checkbox"/> Expand on what the learner is saying/doing. ² <input type="checkbox"/> Give the learner choices. ⁵⁻⁶ <input type="checkbox"/> Follow the learner's lead. ^{4,7-8} <input type="checkbox"/> Exaggerate your sounds and movements. ⁴ <input type="checkbox"/> Other:
Results & Outcomes:				
Additional Notes: How do you think that went? Did you encounter any challenges implementing the EBP? At which points did you see the EBP working? What could you have done differently? Do you feel comfortable implementing this EBP? Did the learner respond positively to naturally occurring reinforcers? Did the learner seem to enjoy the activity? Other Notes:				

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Naturalistic Intervention (NI) ---Professional's Guide---

Naturalistic Intervention...

- Is an evidence-based practice for children and youth with autism spectrum disorder (ASD) from 0-11 years old that can be implemented in multiple settings.
- Focuses on integrating into already occurring routines and activities with naturally occurring reinforcers

Why Use?

- 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.

Outcomes

- The evidence – base for naturalistic intervention supports the use of this practice to address the outcomes below:

Early Intervention (0-2)	Preschool (3-5)	Elementary (6-11)	Middle (12-14)	High (15-22)
Social	Social	Social	No studies	No studies
Communication	Communication	Communication		
	Joint Attention			
	Behavior			
	Play			
Academic	Academic			

Naturalistic Intervention



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.



Naturalistic Intervention

This tip sheet was designed as a supplemental resource to help provide basic information about the practice.

For more information, visit:
www.afirm.fpg.unc.edu



Autism Focused Intervention Resources & Modules

Naturalistic Intervention (NI) ---Professional's Guide---

STEPS FOR IMPLEMENTING

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

- Review collected data with team.
- Determine next steps based on data analysis.



Autism Focused Intervention
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Naturalistic Intervention (NI) ---Parent's Guide---

This introduction provides basic information about Naturalistic Intervention.

What is a Naturalistic Intervention?

- Naturalistic intervention is an evidence-based practice for child and youth with autism spectrum disorder (ASD) from 0 to 11 years old.
- NI is used to help improve child behaviors or skills as part of the learner's everyday routines and activities.

Why use Naturalistic Intervention 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-over-hand assistance or telling your child what to do) are used as part of NI to help your child perform specific skills or complete tasks.

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

To find out more about how NI is used with your child, speak with:

For more information visit:
www.afirm.fpg.unc.edu



Autism Focused Intervention
Resources & Modules

Check out
these
resources to
support your
use of
naturalistic
intervention.

For more
information visit:
www.afirm.fpg.unc.edu

---Additional Resources---

Articles:

Gainey, S., & Falcomata, T. S. (2013). Training teachers to use a naturalistic communication intervention may increase communicative interactions in young children with ASD. *Evidence-Based Communication Assessment and Intervention*, 7(1), 26-30. doi:10.1080/17489539.2013.802422

Harjusola-Webb, S. M., & Robbins, S. H. (2012;2011;). The effects of teacher-implemented naturalistic intervention on the communication of preschoolers with autism. *Topics in Early Childhood Special Education*, 32(2), 99-110. doi:10.1177/0271121410397060

Ingersoll, B., Meyer, K., Bonter, N., & Jelinek, S. (2012). A comparison of developmental social-pragmatic and naturalistic behavioral interventions on language use and social engagement in children with autism. *Journal of Speech, Language, and Hearing Research*, 55(5), 1301-1313. doi:10.1044/1092-4388(2012/10-0345)

Lane, J. D., Ledford, J. R., Shepley, C., Mataras, T. K., Ayres, K. M., & Davis, A. B. (2016). A brief coaching intervention for teaching naturalistic strategies to parents. *Journal of Early Intervention*, 38(3), 135-150. doi:10.1177/1053815116663178

Lane, J. D., Lieberman-Betz, R., & Gast, D. L. (2016). An analysis of naturalistic interventions for increasing spontaneous expressive language in children with autism spectrum disorder. *The Journal of Special Education*, 50(1), 49-61. doi:10.1177/0022466915614837

McDuffie, A., Machalicek, W., Oakes, A., Haebig, E., Weismer, S. E., & Abbeduto, L. (2013). Distance video-teleconferencing in early intervention: Pilot study of a naturalistic parent-implemented language intervention. *Topics in Early Childhood Special Education*, 33(3), 172-185. doi:10.1177/0271121413476348

Nair, M. K. C., Russell, P. S. S., George, B., Prasanna, G. L., Mini, A. O., Leena, M. L., . . . Minju, K. A. (2014). CDC kerala 8: Effectiveness of a clinic based, low intensity, early intervention for children with autism spectrum disorder in india: A naturalistic observational study. *The Indian Journal of Pediatrics*, 81(S2), 110-114. doi:10.1007/s12098-014-1601-6

Pindiprolu, S. S. (2012). A review of naturalistic interventions with young children with autism. *Journal of the International Association of Special Education*, 13(1), 69.

Rakap, S. (2014). Parent-implemented naturalistic language interventions for young children with disabilities: A systematic review of single-subject experimental research studies. *Educational Research Review*, 13, 35-51. doi:10.1016/j.edurev.2014.09.001

Schreibman, L., Dawson, G., Stahmer, A. C., Landa, R., Rogers, S. J., McGee, G. G., . . . Halladay, A. (2015). Naturalistic developmental behavioral interventions: Empirically validated treatments for autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 45(8), 2411-2428. doi:10.1007/s10803-015-2407-8

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Spjut Jansson, B., Miniscalco, C., Westerlund, J., Kantzer, A., Fernell, E., & Gillberg, C. (2016). Children who screen positive for autism at 2.5 years and receive early intervention: A prospective naturalistic 2-year outcome study. *Neuropsychiatric Disease and Treatment*, 12, 2255-2263. doi:10.2147/NDT.S108899

Wright, C. A., Kaiser, A. P., Reikowsky, D. I., & Roberts, M. Y. (2013). Effects of a naturalistic sign intervention on expressive language of toddlers with down syndrome. *Journal of Speech, Language, and Hearing Research*, 56(3), 994-1008. doi:10.1044/1092-4388(2012/12-0060)

Yoder, P. J., Tostanoski, A. H., & Sandbank, M. P. (2014). Adding modeled speech-generating device use to a naturalistic language intervention facilitates generalized communicative spoken utterances immediately after treatment and generalized gains on declarative use 12 weeks after treatment ends in children with ASD who began treatment in the 'word combination' stage. *Evidence-Based Communication Assessment and Intervention*, 8(4), 157-162. doi:10.1080/17489539.2015.1012781

Yoder, P. J., Tostanoski, A. H., & Sandbank, M. P. (2014). Adding modeled speech-generating device use to a naturalistic language intervention facilitates generalized communicative spoken utterances immediately after treatment and generalized gains on declarative use 12 weeks after treatment ends in children with ASD who began treatment in the "word combination" stage. *Evidence-Based Communication Assessment and Intervention*, 8(4), 157. doi:10.1080/17489539.2015.1012781

Books:

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:

Davies, S. (2017). What is Naturalistic Intervention & How Does it Work? AutisMag: A DW Autism Publication. Available at: <https://www.dealwithautism.com/news/what-is-naturalistic-intervention-how-does-it-work/>

AFIRM

Autism Focused Intervention
Resources & Modules

Naturalistic Intervention CEC Standards

The CEC Standards that apply to all 27 evidence-based practices can be found on our website at: <http://afirm.fpg.unc.edu/learn-afirm>

Below are CEC Standards that apply specifically to Naturalistic Intervention (NI) module.

Standard	Description
Initial Preparation Standard 2: Learning Environments	
ISCI 2 K5	Social skills needed for educational and other environments
ISCI 2 S4	Design learning environments that encourage active participation in individual and group activities
ISCI 2 S5	Modify the learning environment to manage behaviors
Initial Preparation Standard 3: Curricular Content Knowledge	
DDA3 S2	Provide individuals with developmental disabilities/autism spectrum disorders strategies to avoid and repair miscommunications
DDA3 S5	Use specialized instruction to enhance social participation across environments
Initial Preparation Standard 5: Instructional Planning & Strategies	
ISCI 5 S19	Use strategies to support and enhance communication skills of individuals with exceptionalities
DDA5 S5	Consistent use of proactive strategies and positive behavioral supports
DDA5 S10	Structure the physical environment to provide optimal learning for individuals with developmental disabilities/autism spectrum disorders
DDA5 S15	Use specialized instruction to enhance social participation across environments

Standard	Description
Advanced Preparation Standard 3: Programs, Services, and Outcomes	
SEDAS3 S7	Design and implement instruction that promote effective communication and social skills for individuals with developmental disabilities/autism spectrum disorders
SEDAS3 S8	Provide varied instruction and opportunity to learn play and leisure skills
SEDAS3 S10	Organize the curriculum to integrate individuals' special interests and materials, activities and routines across curriculum
SEDAS3 S12	Identify evidence based strategies to increase an individual's self-determination of activities, services, and preferences

For more
information visit:
www.afirm.fpg.unc.edu

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2. Kohler, F. W., Anthony, L. J., Steighner, S. A., & Hoyson, M. (2001). Teaching social interaction skills in the integrated preschool an examination of naturalistic tactics. *Topics in Early Childhood Special Education*, 21(2), 93-103. doi: 10.1177/027112140102100203
3. Hancock, T. B., & Kaiser, A. P. (2002). The effects of trainer-implemented enhanced milieu teaching on the social communication of children with autism. *Topics in Early Childhood Special Education*, 22(1), 39-54. doi: 10.1177/0271121402200104
4. Ingersoll, B., Dvortcsak, A., Whalen, C., & Sikora, D. (2005). The effects of a developmental, social—Pragmatic language intervention on rate of expressive language production in young children with autistic spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, 20(4), 213-222. doi: 10.1177/10883576050200040301
5. Koegel, L. K., Carter, C. M., & Koegel, R. L. (2003). Teaching children with autism self-initiations as a pivotal response. *Topics in Language Disorders*, 23(2), 134-145. doi: 10.1097/00011363-200304000-00006
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