AFIRM

Autism Focused Intervention
Resources & Modules

DI

EBP Brief Packet:
Direct Instruction

UNC Frank Porter Graham Child Development Institute
Autism Focused Intervention Resources & Modules
Rentschler, L. F., Sam, A., Waters, V., Dees, R., & AFIRM Team, 2022

The National Professional
Development Center on Autism

The National Clearinghouse on
Autism Evidence & Practice
NCAEP • BRIDGING PRACTICE AND SCIENCE

UNC | **FRANK PORTER GRAHAM**
CHILD DEVELOPMENT INSTITUTE

OVERVIEW OF CONTENT

1. **Table of DI Contents:** This list details the specific DI resources that apply to Direct Instruction.
2. **What is DI:** A quick summary of salient features of Direct Instruction, 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 Direct Instruction.
4. **Planning Checklist:** This checklist details the steps for planning for Direct Instruction, 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 Direct Instruction.
6. **Step-by-Step Guide:** Use this guide as an outline for how to plan for, use, and monitor Direct Instruction. Each step includes a brief description as a helpful reminder while learning the process.
7. **Implementation Checklist:** Use this checklist to determine if Direct Instruction 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 Direct Instruction.
10. **Parent Guide:** Use this guide intended for parents or family members of learners on the spectrum to help them understand basic information about Direct Instruction and how it is being used with their child.
11. **Additional Resources:** This list provides additional information for learning more about Direct Instruction as well as resources.
12. **CEC Standards:** This list details the specific CEC standards that apply to Direct Instruction.
13. **Glossary:** This glossary contains key terms that apply specifically to Direct Instruction.
14. **References:** This list details the specific references used for developing this DI module in numerical order.

UNC FRANK PORTER GRAHAM CHILD DEVELOPMENT INSTITUTE

The National Professional Development Center on Autism

The National Clearinghouse on Autism Evidence & Practice
NCAEP • BRIDGING PRACTICE AND SCIENCE

DI
Rentschler et al., 2022
Page **2** of **28**

TABLE OF CONTENTS

DIRECT INSTRUCTION

WHAT IS DI?

Direct Instruction (DI) is a systematic approach to teaching using a sequenced instructional package with scripted protocols or lessons. It emphasizes teacher and student dialogue through choral and independent student responses and employs systematic and explicit error corrections to promote mastery and generalization.
The pace of the instruction is quick, and the specificity of the lessons decreases students' confusion or misinterpretations.
DISCLAIMER: This module is not intended to replace the Direct Instruction training, but rather, to introduce basic knowledge of DI as an evidence-based practice for learners on spectrum.

EVIDENCE-BASE:

Based upon the 2020 systematic review conducted by the National Clearinghouse on Autism Evidence and Practice (NCAEP), Direct Instruction is a focused intervention that meets the evidence-based practice criteria with 7 single case design and 1 group design study. This practice has been effective for preschoolers (3-5 years), elementary schoolers (6-11 years), middle schoolers (12-14 years), and high schoolers (15-18 years) on the spectrum. Studies included the 2020 EBP report (Steinbrenner et al., 2020) detail how this practice can be used to effectively address the following outcomes for a target goal/behavior/skill: academic/pre-academic, cognitive, and communication.

HOW IS DI BEING USED?

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

UNC **FRANK PORTER GRAHAM CHILD DEVELOPMENT INSTITUTE**

The National Professional Development Center on Autism

The National Clearinghouse on Autism Evidence & Practice

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:

Based upon the 2020 systematic review conducted by the National Clearinghouse on Autism Evidence and Practice (NCAEP), Direct Instruction is a focused intervention that meets the evidence-based practice criteria with 7 single case design and 1 group design study. This practice has been effective for preschoolers (3-5 years), elementary schoolers (6-11 years), middle schoolers (12-14 years), and high schoolers (15-18 years) on the spectrum. Studies included the 2020 EBP report (Steinbrenner et al., 2020) detail how this practice can be used to effectively address the following outcomes for a target goal/behavior/skill: academic/pre-academic, cognitive, and communication.

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

Age	Academic	Cognitive	Communication	School Readiness
3-5	Yes		Yes	
6-11	Yes	Yes	Yes	Yes
12-14		Yes	Yes	Yes
15-18			Yes	

PRESCHOOL (3-5 YEARS):

Flores, M. M., Schweck, K. B., & Hinton, V. (2016). Teaching language skills to preschool students with developmental delays and autism spectrum disorder using language for learning. *Rural Special Education Quarterly, 35*(1), 3-12. https://doi.org/10.1177/875687051603500102

***Kamps, D., Heitzman-Powell, L., Rosenberg, N., Mason, R., Schwartz, I., Romine, & Swinburne, R. (2016). Effects of reading mastery as a small group intervention for young children with ASD. *Journal of Developmental and Physical Disabilities*, 28(5), 703-722. https://doi.org/10.1007/s10882-016-9503-3**

***Wolfe, K., Blankenship, A., & Rispoli, M. (2017). Generalization of skills acquired in language for learning by young children with autism spectrum disorder. *Journal of Developmental and Physical Disabilities, 30*(1), 1-16. https://doi.org/10.1007/s10882-017-9572-y**

ELEMENTARY SCHOOL (6-11 YEARS):

Crowley, K., McLaughlin, T., & Kahn, R. (2013). Using direct instruction flashcards and reading racetracks to improve sight word recognition of two elementary students with autism. *Journal of Developmental and Physical Disabilities, 25*(3), 297-311. https://doi.org/10.1007/s10882-012-9307-z

*Flores, M. M., & Ganz, J. B. (2007). Effectiveness of direct instruction for teaching statement inference, use of facts, and analogies to students with developmental disabilities and reading delays. *Focus on Autism and Other Developmental Disabilities*, 22(4), 244-251. **https://doi.org/10.1177/10883576070220040601**

Ganz, J. B., & Flores, M. M. (2009). The effectiveness of direct instruction for teaching language to children with autism spectrum disorders: Identifying materials. *Journal of Autism and Developmental Disorders*, 39(1), 75-83. **https://doi.org/10.1007/s10803-008-0602-6**

***Kamps, D., Heitzman-Powell, L., Rosenberg, N., Mason, R., Schwartz, I., Romine, & Swinburne, R. (2016). Effects of reading mastery as a small group intervention for young children with ASD. *Journal of Developmental and Physical Disabilities*, 28(5), 703-722. https://doi.org/10.1007/s10882-016-9503-3**

Thompson, J. L., Wood, C. L., Test, D. W., & Cease-Cook, J. (2012). Effects of direct instruction on telling time by students with autism. *Journal of Direct Instruction, 12*, 1-12.

***Wolfe, K., Blankenship, A., & Rispoli, M. (2017). Generalization of skills acquired in language for learning by young children with autism spectrum disorder. *Journal of Developmental and Physical Disabilities, 30*(1), 1-16. https://doi.org/10.1007/s10882-017-9572-y**

MIDDLE SCHOOL (12-14 YEARS):

*Flores, M. M., & Ganz, J. B. (2007). Effectiveness of direct instruction for teaching statement inference, use of facts, and analogies to students with developmental disabilities and reading delays. *Focus on Autism and Other Developmental Disabilities*, 22(4), 244-251. https://doi.org/10.1177/10883576070220040601

HIGH SCHOOL (15-18 YEARS):

Cadette, J. N., Wilson, C. L., Brady, M. P., Dukes, C., & Bennett, K. D. (2016). The effectiveness of direct instruction in teaching students with autism spectrum disorder to answer "Wh-" questions. *Journal of Autism and Developmental Disorders, 46*(9), 2968-2978. https://doi.org/10.1007/s10803-016-2825-2

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

**FRANK PORTER GRAHAM
CHILD DEVELOPMENT INSTITUTE**

The National Professional
Development Center on Autism

DI
Rentschler et al., 2022
Page **6** of **28**

DI PROCESS

Direct Instruction (DI) is a teaching method and set of lessons designed to help students learn subjects like reading, math, and language. It was created by Dr. Siegfried Engelmann and Dr. Wesley Becker. DI is different from general "direct instruction," which is just a way of teaching. DI is a specific program that focuses on both what students learn and how they learn it.

DI can be used as a full curriculum for different subjects or to teach specific skills. It uses carefully planned lessons for small groups of students who have similar skill levels. The lessons build on each other step by step, making sure students fully understand one skill before moving on to the next.

Key ideas of DI:
- Every child can learn.
- Every student can improve and gain confidence.
- Teachers can be successful if they get the right training and materials.
- Students learn best when teachers use time wisely, teach clearly, and quickly correct mistakes.
- Lessons are well-organized and designed to help students succeed and build strong skills for future learning.

Teachers and other educators can be trained to use DI. They follow specific lesson scripts, ask students to respond together as a group, and correct mistakes right away. The lessons move at a quick pace to keep students engaged and learning effectively.

DAILY SCHEDULE

Learner's Name: _____   **Date/Time:** _____

Observer(s): _____

Target Skill/Goal/Behavior: _____

Directions: Use this form to create a daily schedule for the learner or to help you plan for using this evidence-based practice.

Time	Monday	Tuesday	Wednesday	Thursday	Friday

UNC | FRANK PORTER GRAHAM
CHILD DEVELOPMENT INSTITUTE

The National Professional
Development Center on Autism

The National Clearinghouse on
Autism Evidence & Practice
NCAEP ★ BRIDGING PRACTICE AND SCIENCE

DI
Rentschler et al., 2022
Page **8** of **28**

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.

Item 1	Selected?	Item 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:

FRANK PORTER GRAHAM CHILD DEVELOPMENT INSTITUTE
The National Professional Development Center on Autism
Autism Evidence & Practice

DI
Rentschler et al., 2022
Page **9** of **28**

LIST POTENTIAL REINFORCERS:

AGE APPROPRIATE?

1. What natural reinforcers could be used?

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   No

8. Are additional materials and/or resources for using Functional Behavior Assessment ready and available?

Yes   No

FOODS FOR SNACKS/MEALTIME ROUTINES:

❑ Cheese	❑ Fruit	❑ Pretzels
❑ Chicken Nuggets	❑ Goldfish	❑ Other:
❑ Chips	❑ Ice Cream	❑ Other:
❑ French Fries	❑ Pizza	❑ Other:

GAMES FOR PLAY/RECESS ROUTINES:

❑ Burrito games with a blanket	❑ Peek-a-Boo	❑ Other:
❑ Chase	❑ Tickles	❑ Other:
❑ Pat-a-Cake	❑ Other:	❑ Other:

TOYS FOR PLAY/RECESS ROUTINES:

❑ Books	❑ Legos	❑ Remote controlled toys
❑ Cars/Trains/Trucks	❑ Noisy toys	❑ Other:
❑ Computer	❑ Phones	❑ Other:
❑ Doll house	❑ Puzzles	❑ Other:

SPECIAL INTERESTS FOR ACTIVITIES/ROUTINES:

❑ Book Character:	❑ Movie Character:	❑ TV Show:
❑ Book:	❑ Movie:	❑ Video Game:
❑ Cars, Trains, Trucks	❑ Music	❑ Other:
❑ Computers/Technology	❑ Numbers	❑ Other:
❑ Dinosaurs	❑ Real-Life Person:	❑ Other:
❑ Letters	❑ TV Show Character:	❑ Other:

PLANNING CHECKLIST

Learner's Name: _____ **Date/Time:** _____

Observer(s): _____

Target Skill/Goal/Behavior: _____

Directions: Complete this checklist to determine if Direct Instruction is appropriate to use with the learner on the spectrum as well as if DI is ready to be implemented.

PLANNING:

❏ Have team members received training on DI and specific DI levels being taught?

❏ Have learner placement assessments been conducted?

❏ Have curriculum materials been purchased?

❏ Have groups been organized?

❏ Has the learning area been arranged?

❏ Have team members practiced the lesson scripts?

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

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

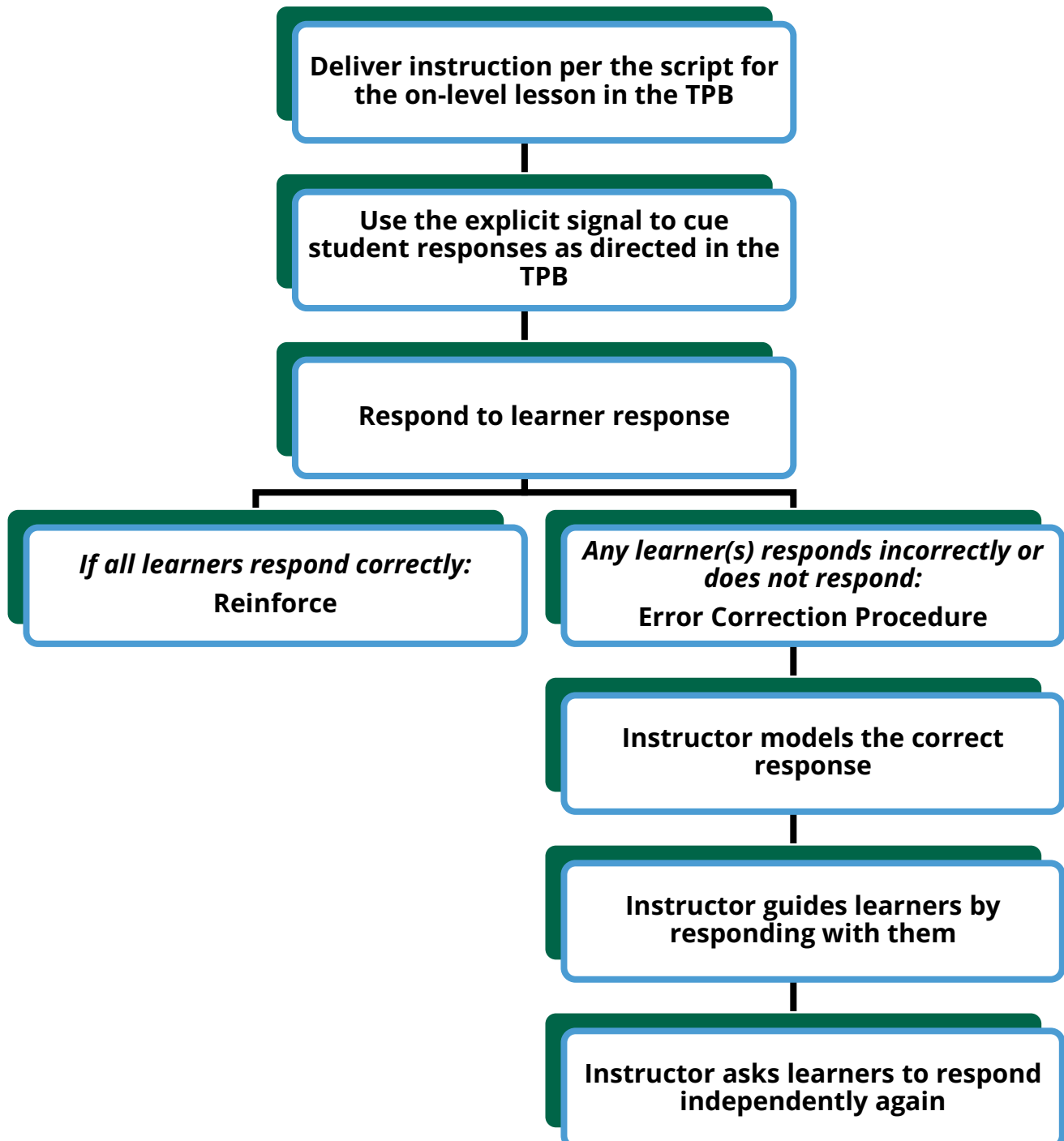❏ Are materials and/or activities for using Direct Instruction ready and available?

DECISION TREE

Learner's Name: _____ **Date/Time:** _____

Observer(s): _____

Target Skill/Goal/Behavior: _____

Directions: Use this decision tree for following the DI teaching sequence with a learner on the spectrum.

Deliver instruction per the script for the on-level lesson in the TPB

Use the explicit signal to cue student responses as directed in the TPB

Respond to learner response

If all learners respond correctly:
Reinforce

Any learner(s) responds incorrectly or does not respond:
Error Correction Procedure

Instructor models the correct response

Instructor guides learners by responding with them

Instructor asks learners to respond independently again

MONITORING PROGRESS CHECKLIST

Learner's Name: _____   **Date/Time:** _____

Observer(s): _____

Target Skill/Goal/Behavior: _____

Directions: Complete this checklist to determine if the learner is making progress with using Direct Instruction.

MONITORING PROGRESS:

❏ Have you received DI training or is additional training needed?

❏ Is the learner's instructional group placement appropriate?

❏ Has enough time been devoted to implementing DI daily?

❏ Was DI implemented with fidelity (see Implementation Checklist)?

❏ Does the learner need additional supports?

❏ Are the selected reinforcers preferred items/activities for the learner?

ANECDOTAL NOTES:

STEP-BY-STEP GUIDE

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

BEFORE YOU BEGIN...

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

HAVE YOU FOUND OUT MORE INFORMATION ABOUT...?

❑ Identifying the target 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 Direct Instruction, please visit https://afirm.fpg.unc.edu/ .

> Keep in mind that **Direct Instruction** can be used to increase language, reading, and/or math skills for learners on the spectrum.

STEP 1: PLANNING FOR DI

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

1. **Receive initial DI training**
   Obtaining formal training in DI is necessary because the teaching procedures are highly specialized.
   - Visit the National Institute for Direct Instructions (NIFDI) website: www.nifdi.org.
   - Visiting a model DI school can be helpful.
   - Arrange with NIFDI for live training through in-services, training events and coaching sessions.

2. **Conduct student placement assessments**
   After completing initial training, team members should assess learners for placement in specific levels of DI programs.
   - Learners are placed in instructional groups based on assessment outcomes.
   - Ideally, placement tests are conducted at the end of the current school year.
   - Conduct placement tests prior to ordering any curriculum materials.

3. **Prepare for the appropriate DI level(s)**
   Before beginning to implement DI, preparations for the specific levels your team will implement are necessary.
   - Purchase curriculum materials.
   - Obtain training on the specific DI levels to be taught.

4. **Organize DI learning groups**
   Learners need to be organized into learning groups based on the results of their placement tests. Groups are fluid as learners may move to a different instructional group based on their progress.

5. **Create daily DI schedule**
   Scheduling sufficient instructional time for DI is crucial for efficacy. Curriculum materials provide guidelines for scheduling across instructional areas.
   📄 Use the **Daily Schedule** form to create a Direct Instruction daily schedule for learners.

6. **Plan for reinforcement**
   While DI should become naturally reinforcing as learners experience success with learning, including additional reinforcement during DI time is also important.
   - Learner success should be naturally reinforcing.
   - DI suggests the use of social praise for correct responding.
   - DI also suggests a reinforcing game for working hard, staying on-task, and following directions.
   - Alternative reinforcers may be paired with the above strategies to provide more immediate tangible reinforcers.

7. **Organize session materials and set-up instructional space**
   - Familiarize yourself with the various components of the curriculum materials. The Teacher Presentation Books (TPB) is a critical component that provides scripted lessons for the instructor.
   - Select an instructional space based on the size of your learner group. Other needed materials may include a whiteboard/chalkboard, projector, and/or smartboard. Be sure that every student has a clear sightline to the instructor, presentation book, and board (if applicable).

8. **Practice the script for the first lesson as outlined in the Teacher Presentation Book**
   All instructors should spend 10-15 minutes practicing the next day's lesson in the TPB every day, ideally with another instructor. Follow the NIFDI advised key components related to the presentation of the lessons and responses to learners.
   📄 Use the **Planning Checklist** to determine if ready to use DI.

STEP 2: USING DI

This step details the process of implementing Direct Instruction with a learner on the spectrum.

1. **Follow the TPB for implementing DI**
   Each DI program comes with Teacher Presentation Books (TPB). The leveled lessons with accompanying scripts can be found in the TPBs.
   a) Deliver instruction per the script for the on-level lesson in the TPB
      ▪ Scripts are color-coded and also note words for instructors to emphasize during lessons.
   b) Use the explicit signal to cue student responses as directed in the TPB
   c) Respond to learner's response:
      ▪ If learner responds correctly: Provide reinforcement
      ▪ If learner responds incorrectly or does not respond, use the following procedure:
         – Model the correct response
         – Guide the students by responding with them
         – Ask students to respond independently again
   📄 Use the **Decision Tree** for implementing DI with learners on the spectrum.

2. **Implement Mastery Tests as indicated by the DI program**
   Mastery Tests are given to students every 5-10 lessons, depending on the program and level. Data from these tests provide information on whether lessons should be revisited or if a learner should switch to a different instructional group.

STEP 3: MONITORING DI

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

1. **Collect data**
   DI data are collected in several ways:
   • Observation of student performance during lessons
   • Lesson Progress Chart
   • Student Test Summary Chart
   • Progress on independent work (for older students)

2. **Weekly review of collected data**
   All collected data should be reviewed weekly by the team. Learners should achieve high rates of correct responding (70% of new material and 90% of previously mastered material) during each lesson.

3. **Conduct weekly training and practice sessions for all team members**
   Implementation fidelity is key to student outcomes; therefore, instructional teams should review their fidelity to the instructional model weekly. On-going training and practice sessions are necessary for all instructors.

4. **Determine next steps based on learner progress**
   Collecting data will help team members decide about the effectiveness of using Direct Instruction 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:
   - Have you received DI training or is additional training needed?
   - Is the learner's instructional group placement appropriate?
   - Has enough time been devoted to implementing DI daily?
   - Was DI implemented with fidelity (see Implementation Checklist)?
   - Does the learner need additional supports?
   - Are the selected reinforcers preferred items/activities of the learner?

   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.

UNC | FRANK PORTER GRAHAM
CHILD DEVELOPMENT INSTITUTE

The National Professional
Development Center on Autism

The National Clearinghouse on
Autism Evidence & Practice

DI
Rentschler et al., 2022
Page **18** of **28**

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	Receive initial DI training					
1.2	Conduct student placement assessments					
1.3	Prepare for the appropriate DI level(s)					
1.4	Organize DI learning groups					
1.5	Create daily DI schedule					
1.6	Plan for reinforcement					
1.7	Organize session materials and set-up instructional space					
1.8	Practice the script for the first lesson as outlined in the 'Teacher Presentation Book' (TPB)					
STEP 2: USING						
2.1	Follow the TPB for implementing DI instruction					
2.2	Implement Mastery Tests as indicated by the DI program					
STEP 3: MONITORING						
3.1	Collect data					
3.2	Weekly review of collected data					
3.3	Conduct weekly training and practice sessions for all team members					
3.4	Determine next steps based on learner progress					

Autism Focused Intervention Resources & Modules

TIP SHEET FOR PROFESSIONALS

DIRECT INSTRUCTION …

- A teaching model and accompanying curricula for instruction on language, reading, math, and other academic subjects.
- Used to increase a target goal/behavior/skill such as language, reading, and/or math.

WHY USE WITH LEARNERS ON THE SPECTRUM?

- DI streamlines the rules and concepts in academic subjects to present content in manageable chunks.
- DI supports learners in gaining important foundational knowledge prior to the introduction of new concepts.
- DI can improve academic outcomes and build the self-confidence of learners.

TIPS:
- Receive initial DI training before using DI.
- Conduct Placement Assessments to determine instructional groups.
- Create a daily DI schedule to ensure sufficient instructional time.

INSTRUCTIONAL OUTCOMES:

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

Age	Academic	Cognitive	Communication	School Readiness
3-5	Yes		Yes	
6-11	Yes	Yes	Yes	Yes
12-14		Yes	Yes	Yes
15-18			Yes	

UNC FRANK PORTER GRAHAM CHILD DEVELOPMENT INSTITUTE — The National Professional Development Center on Autism

STEPS FOR IMPLEMENTING:

1. PLAN

- Receive initial DI training
- Conduct student placement assessments
- Prepare for the appropriate DI level(s)
- Organize DI learning groups
- Create daily DI schedule
- Plan for reinforcement
- Organize session materials and set-up instructional space
- Practice the script for the first lesson as outlined in TPB

2. USE

- Follow the TPB for implementing DI
- Implement Mastery Tests as indicated by the DI program

3. MONITOR

- Collect data
- Weekly review of collected data
- Conduct weekly training and practice sessions for all team members
- Determine next steps based on learner progress

**Direct Instruction
DI**

This sheet was designed as a supplemental resource to provide basic information about Direct Instruction 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 DI?

- DI is a teacher-directed model of instruction on language, reading, math, and other academic subjects.
- DI programs include Language for Learning, Language for Thinking, Reading Mastery, Spelling Mastery, Horizons and Connecting Math Concepts among others.
- DI is used to increase a target goal/behavior/skill such as language, reading, and/or math.

WHY USE THIS DI WITH MY CHILD?

- DI targets content to the learner's current skill level.
- DI provides clear content, repetition and ensures mastery before new content is introduced.
- Learning becomes reinforcing as students experience success.

WHAT ACTIVITIES CAN I DO AT HOME?

- *Funnix Reading* is a computer-based program that teaches reading skills including decoding, fluency, vocabulary, and comprehension.
- *Funnix Math* is a computer-based program for teaching early math skills such as counting and beginning math operations.
- *Teach Your Child to Read in 100 Easy Lessons* provides resources for step-by-step reading instruction.

**Direct Instruction
DI**

This parent introduction to DI was designed as a supplemental resource to help answer questions about Direct Instruction.

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

_____

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

ADDITIONAL RESOURCES

APPS:

Icon	Developer	Name	Available	Pricing
funnix	Funnix, LLC	*Funnix Reading and Math*	Funnix.com	Starts at $24.99/mo.

BOOKS:

Adams, G., & Engelmann, S. (1996). *Research on Direct Instruction: 25 years beyond DISTAR.* Educational Achievement Systems.

Barbash, S. (2012). *Clear teaching: With Direct Instruction, Siegfried Engelmann discovered a better way of teaching.* Education Consumers Foundation.

Boxer, A., & Bennet, T. (Eds.). (2019). *The researchED guide to Direct Instruction: An evidence-informed guide for teachers.* John Catt Educational.

Engelmann, S., Haddox, P., & Bruner, E. (1986). *Teach your child to read in 100 easy lessons.* Touchstone.

WEBSITES:

Funnix. (2021). **https://www.funnix.com/**

McGraw Hill Education. (2022). *Direct Instruction.* **https://www.mheducation.com/prek-12/explore/direct-instruction.html**

National Institute for Direct Instruction. (2015). **https://www.nifdi.org/**

Siegfried (Zig) Engelmann and Direct Instruction. (2012). **https://www.zigsite.com/**

CEC Standards

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

Standard 4: Assessment Processes
4.2   Develop and administer informal assessments and/or select and use valid, reliable formal assessments using evidence-based practices, including technology, in partnership with families and other professionals.
4.4   Candidates, in collaboration with families and other team members, use assessment data to determine eligibility, develop child and family-based outcomes/goals, plan for interventions and instruction, and monitor progress to determine efficacy of programming.

Standard 5: Application of Curriculum Frameworks in the Planning of Meaningful Learning Experience
5.1   Collaborate with families and other professionals in identifying an evidence-based curriculum addressing developmental and content domains to design and facilitate meaningful and culturally responsive learning experiences that support the unique abilities and needs of all children and families.

Standard 6: Using Responsive and Reciprocal Interactions, Interventions, and Instruction
6.1   In partnership with families, identify systematic, responsive, and intentional evidence-based practices and use such practices with fidelity to support young children's learning and development across all developmental and academic content domains.
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.
6.7   Plan for, adapt, and improve approaches to interactions, interventions, and instruction based on multiple sources of data across a range of natural environments and inclusive settings.

Standard 7: Professionalism and Ethical Practice
7.2   Engage in ongoing reflective practice and access evidence-based information to improve own practices.

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

Standard 2: Understanding and Addressing Each Individual's Developmental and Learning Needs

2.1   Apply understanding of human growth and development to create developmentally appropriate and meaningful learning experiences that address individualized strengths and needs of students with exceptionalities.

Standard 4: Using Assessment to Understand the Learner and the Learning Environment for Data-Based Decision Making

4.1   Collaboratively develop, select, administer, analyze, and interpret multiple measures of student learning, behavior, and the classroom environment to evaluate and support classroom and school-based systems of intervention for students with and without exceptionalities.

4.3   Assess, collaboratively analyze, interpret, and communicate students' progress toward measurable outcomes using technology as appropriate, to inform both short- and long-term planning, and make ongoing adjustments to instruction.

Standard 5: Supporting Learning Using Effective Instruction

5.2   Use effective strategies to promote active student engagement, increase student motivation, increase opportunities to respond, and enhance self-regulation of student learning.

5.3   Use explicit, systematic instruction to teach content, strategies, and skills to make clear what a learner needs to do or think about while learning.

5.4   Candidates use flexible grouping to support the use of instruction that is adapted to meet the needs of each individual and group.

5.5   Plan and deliver specialized, individualized instruction that is used to meet the learning needs of each individual.

Standard 6: Supporting Social, Emotional, and Behavioral Growth

6.2   Use a range of preventive and responsive practices documented as effective to support individuals' social, emotional, and educational well-being.

UNC FRANK PORTER GRAHAM
CHILD DEVELOPMENT INSTITUTE

The National Professional
Development Center on Autism

The National Clearinghouse on
Autism Evidence & Practice
NCAEP • BRIDGING PRACTICE AND SCIENCE

DI
Rentschler et al., 2022
Page **25** of **28**

ADVANCED PRACTICE-BASED STANDARDS (CEC, 2012):

Standard 1: Assessment

1.2   Design and implement assessments to evaluate the effectiveness of practices and programs.

Standard 2: Curricular Content Knowledge

2.2   Continuously broaden and deepen professional knowledge and expand expertise with instructional technologies, curriculum standards, effective teaching strategies, and assistive technologies to support access to and learning of challenging content.

Standard 3: Programs, Services, and Outcomes

3.1   Design and implement evaluation activities to improve programs, supports, and services for individuals with exceptionalities.

3.4   Use instructional and assistive technologies to improve programs, supports, and services for individuals with exceptionalities.

Standard 7: Collaboration

7.2   Special education specialists use collaborative skills to improve programs, services, and outcomes for individuals with exceptionalities.

UNC | FRANK PORTER GRAHAM
CHILD DEVELOPMENT INSTITUTE

The National Professional
Development Center on Autism

The National Clearinghouse on
Autism Evidence & Practice

DI
Rentschler et al., 2022
Page **26** of **28**

GLOSSARY

Baseline data - information gathered from multiple sources to better understand the target behavior, before using an intervention or practice; data collected on current performance level prior to implementation of intervention

Cue - a clear signal to the learner to perform a target skill, may be auditory, visual or both

Direct Instruction (DI) - A systematic approach to teaching using a sequenced instructional package with scripted protocols or lessons. It emphasizes teacher and student dialogue through choral and independent student responses and employs systematic and explicit error corrections to promote mastery and generalization.

Error correction - a procedure for responding to correct a learner's incorrect response

Fidelity - how well and how often the implementation steps for an evidence-based practice are followed

Implementation checklist - the specific steps needed to accurately follow an evidence-based practice

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 learner and that leads to the acquisition of the target behavior.

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

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

Token economy - a type of positive reinforcement where learners earn tokens which can be used to acquire desired reinforcers (known as backup reinforcers)

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 with ASD

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

REFERENCES

1. Cadette, J. N., Wilson, C. L., Brady, M. P., Dukes, C., & Bennett, K. D. (2016). The effectiveness of direct instruction in teaching students with autism spectrum disorder to answer "Wh-" questions. *Journal of Autism and Developmental Disorders, 46*(9), 2968-2978. https://doi.org/10.1007/s10803-016-2825-2

2. Flores, M. M., Schweck, K. B., & Hinton, V. (2016). Teaching language skills to preschool students with developmental delays and autism spectrum disorder using language for learning. *Rural Special Education Quarterly, 35*(1), 3-12. https://doi.org/10.1177/875687051603500102

3. Ganz, J. B., & Flores, M. M. (2009). The effectiveness of direct instruction for teaching language to children with autism spectrum disorders: Identifying materials. *Journal of Autism and Developmental Disorders*, *39*(1), 75-83. https://doi.org/10.1007/s10803-008-0602-6

4. Wolfe, K., Blankenship, A., & Rispoli, M. (2017). Generalization of skills acquired in language for learning by young children with autism spectrum disorder. *Journal of Developmental and Physical Disabilities, 30*(1), 1-16. https://doi.org/10.1007/s10882-017-9572-y

5. Crowley, K., McLaughlin, T., & Kahn, R. (2013). Using direct instruction flashcards and reading racetracks to improve sight word recognition of two elementary students with autism. *Journal of Developmental and Physical Disabilities, 25*(3), 297-311. https://doi.org/10.1007/s10882-012-9307-z

6. Flores, M. M., & Ganz, J. B. (2007). Effectiveness of direct instruction for teaching statement inference, use of facts, and analogies to students with developmental disabilities and reading delays. *Focus on Autism and Other Developmental Disabilities*, *22*(4), 244-251. https://doi.org/10.1177/10883576070220040601

7. Kamps, D., Heitzman-Powell, L., Rosenberg, N., Mason, R., Schwartz, I., Romine, & Swinburne, R. (2016). Effects of reading mastery as a small group intervention for young children with ASD. *Journal of Developmental and Physical Disabilities*, *28*(5), 703-722. https://doi.org/10.1007/s10882-016-9503-3

8. Thompson, J. L., Wood, C. L., Test, D. W., & Cease-Cook, J. (2012). Effects of direct instruction on telling time by students with autism. *Journal of Direct Instruction, 12*, 1-12.

9. Steinbrenner, J. R., Hume, K., Odom, S. L., Morin, K. L., Nowell, S. W., Tomaszewski, B., Szendrey, S., McIntyre, N. S., Yücesoy-Özkan, S., & Savage, M. N. (2020). Evidence-based practices for children, youth, and young adults with Autism. The University of North Carolina at Chapel Hill, Frank Porter Graham Child Development Institute, National Clearinghouse on Autism Evidence and Practice Review Team.

10. National Institute for Direct Instruction. (2015). *Training.* ***https://www.nifdi.org/services/training.html***

11. McGraw Hill. (2022). *Direct Instruction.* **https://www.mheducation.com/prek-12/explore/direct-instruction.html**

12. National Institute for Direct Instruction. (2015). *Placement Testing.* **https://www.nifdi.org/programs/about-the-programs/placement-testing.html**