



Technology-aided Instruction & Intervention (TAII) ---EBP Brief Packet---

Components of the EBP Brief Packet...

This evidence-based practice overview on Technology-aided Instruction & 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 *TAII 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 *TAII Step-by-Step Practice Guide* as an outline for how to plan for, use, and monitor TAII. Each step includes a brief description as a helpful reminder while learning the process.
4. **Implementation Checklist:** Use the *TAII 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 *TAII 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 *TAII 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 TAII.
10. **Module References:** A list of numerical *References* utilized for the TAII module.

Suggested citation:

Hedges, S & AFIRM Team. (2018). *Technology-aided Instruction & 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/Technology-aided-instruction-and-intervention>

This overview
brief will
support your
use of the
evidence-
based
practice:
Technology-
aided
Instruction &
Intervention.

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

What Is TAI?

Technology-aided instruction and intervention (TAI) refers to instruction or intervention in which technology is the central feature supporting the acquisition of a goal for the learner.

Technology is defined as “any electronic item, equipment, application, or virtual network that is used intentionally to increase/maintain, and/or improve daily living, work/productivity, and recreation/leisure capabilities of children with autism spectrum disorders.”¹ Some of the forms of technology included in the definition are smart phones, tablets, laptops, desktop computers, speech generating devices, interactive white boards, software for computers, and the internet.

Evidence-base

Technology-aided instruction and intervention meets the evidence-based practice criteria with 11 single case design studies and 9 group design studies. The practice has been effective with learners in preschool (3-5 years) to high school learners (15-22 years). Studies included in the 2014 EBP report detailed how technology-aided instruction and intervention can be used effectively to address: social, communication, joint attention, behavior, school-readiness, cognitive, motor, adaptive, vocational, and academic outcomes.

How Is TAI Being Used?

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

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information, visit:**
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---Evidence-base for Technology-aided Instruction and Intervention---

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--

Technology-aided instruction and intervention refers to instruction or intervention in which technology is the central feature supporting the acquisition of a goal for the learner. Technology-aided instruction and intervention meets the evidence-based practice criteria with 11 single case design studies and 9 group design studies. The practice has been effective with learners in preschool (3-5 years) to high school learners (15-22 years). Studies included in the 2014 EBP report detailed how technology-aided instruction and intervention can be used effectively to address: social, communication, joint attention, behavior, school-readiness, cognitive, motor, adaptive, vocational, 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)
No studies	Social	Social	Social	Social
	Communication	Communication	Communication	Communication
		Joint Attention	Joint Attention	Joint Attention
		Behavior	Behavior	Behavior
	School-Readiness	School-Readiness	School-Readiness	School-Readiness
	Cognitive			
				Motor
				Adaptive
			Vocational	Vocational
	Academic		Academic	Academic

Early intervention (0-2 years)

No studies

Preschool (3-5 years)

- *Golan, O., Ashwin, E., Granader, Y., McClintock, S., Day, K., Leggett, V., & Baron-Cohen, S. (2010). Enhancing emotion recognition in children with autism spectrum conditions: An intervention using animated vehicles with real emotional faces. *Journal of Autism and Developmental Disorders*, 40(3), 269-279. doi: 10.1007/s10803-009-0862-9
- Moore, M., & Calvert, S. (2000). Brief report: Vocabulary acquisition for children with autism: Teacher or computer instruction. *Journal of Autism and Developmental Disorders*, 30(4), 359-362. doi: 10.1023/A:1005535602064
- Whalen, C., Moss, D., Ilan, A. B., Vaupel, M., Fielding, P., Macdonald, K., ... & Symon, J. (2010). Efficacy of TeachTown: Basics computer-assisted intervention for the intensive comprehensive autism program in Los Angeles unified school district. *Autism*, 14(3), 179-197. doi: 10.1177/1362361310363282

Elementary (6-11 years)

- Beaumont, R., & Sofronoff, K. (2008). A multi - component social skills intervention for children with Asperger syndrome: The Junior Detective Training Program. *Journal of Child Psychology and Psychiatry*, 49(7), 743-753. doi: 10.1111/j.1469-7610.2008.01920.x
- Choi, H., O'Reilly, M., Sigafoos, J., & Lancioni, G. (2010). Teaching requesting and rejecting sequences to four children with developmental disabilities using augmentative and Alternative communication. *Research in Developmental Disabilities: A Multidisciplinary Journal*, 31(2), 560-567. doi: 10.1016/j.rasd.2010.08.005
- *Cihak, D. F., Wright, R., & Ayres, K. M. (2010). Use of self-modeling static-picture prompts via a handheld computer to facilitate self-monitoring in the general education classroom. *Education and Training in Developmental Disabilities*, 45(1), 136.
- *Golan, O., Ashwin, E., Granader, Y., McClintock, S., Day, K., Leggett, V., & Baron-Cohen, S. (2010). Enhancing emotion recognition in children with autism spectrum conditions: An intervention using animated vehicles with real emotional faces. *Journal of Autism and Developmental Disorders*, 40(3), 269-279. doi: 10.1007/s10803-009-0862-9
- Hopkins, I. M., Gower, M. W., Perez, T. A., Smith, D. S., Amthor, F. R., Wimsatt, F. C., & Biasini, F. J. (2011). Avatar assistant: Improving social skills in students with an ASD through a computer-based intervention. *Journal of Autism and Developmental Disorders*, 41(11), 1543-1555. doi: 10.1007/s10803-011-1179-z
- Kodak, T., Fisher, W. W., Clements, A., & Bouxsein, K. J. (2011). Effects of computer-assisted instruction on correct responding and procedural integrity during early intensive behavioral intervention. *Research in Autism Spectrum Disorders*, 5(1), 640-647.

Elementary (6-11 years continued)

- *Mineo, B. A., Ziegler, W., Gill, S., & Salkin, D. (2009). Engagement with electronic screen media among students with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 39(1), 172-187. doi: 10.1007/s10803-008-0616-0
- *Silver, M., & Oakes, P. (2001). Evaluation of a new computer intervention to teach people with autism or Asperger syndrome to recognize and predict emotions in others. *Autism*, 5(3), 299-316. doi: 10.1177/1362361301005003007

Middle (12-14 years)

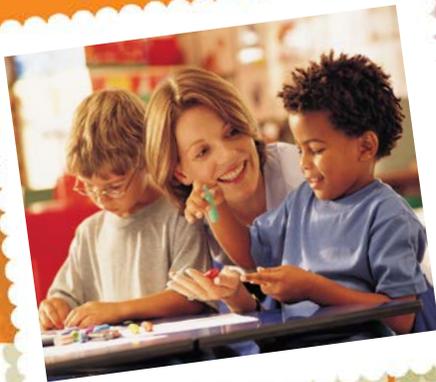
- *Cihak, D. F., Wright, R., & Ayres, K. M. (2010). Use of self-modeling static-picture prompts via a handheld computer to facilitate self-monitoring in the general education classroom. *Education and Training in Developmental Disabilities*, 45(1), 136.
- *Faja, S., Aylward, E., Bernier, R., & Dawson, G. (2007). Becoming a face expert: A computerized face-training program for high-functioning individuals with autism spectrum disorders. *Developmental Neuropsychology*, 33(1), 1-24. doi: 10.1080/87565640701729573
- Mechling, L. C., & Savidge, E. J. (2011). Using a personal digital assistant to increase completion of novel tasks and independent transitioning by students with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 41(6), 687-704. doi: 10.1007/s10803-010-1088-6
- Mechling, L. C., Gast, D. L., & Cronin, B. A. (2006). The effects of presenting high-preference items, paired with choice, via computer-based video programming on task completion of students with autism. *Focus on Autism and Other Developmental Disabilities*, 21(1), 7-13. doi: 10.1177/10883576060210010201
- *Mineo, B. A., Ziegler, W., Gill, S., & Salkin, D. (2009). Engagement with electronic screen media among students with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 39(1), 172-187. doi: 10.1007/s10803-008-0616-0
- *Silver, M., & Oakes, P. (2001). Evaluation of a new computer intervention to teach people with autism or Asperger syndrome to recognize and predict emotions in others. *Autism*, 5(3), 299-316. doi: 10.1177/1362361301005003007
- Soares, D. A., Vannest, K. J., & Harrison, J. (2009). Computer aided self - monitoring to increase academic production and reduce self - injurious behavior in a child with autism. *Behavioral Interventions*, 24(3), 171-183.

High (15-22 years)

- *Faja, S., Aylward, E., Bernier, R., & Dawson, G. (2007). Becoming a face expert: A computerized face-training program for high-functioning individuals with autism spectrum disorders. *Developmental Neuropsychology*, 33(1), 1-24. doi: 10.1080/87565640701729573

High (15-22 years continued)

- Golan, O., & Baron-Cohen, S. (2006). Systemizing empathy: Teaching adults with Asperger syndrome or high-functioning autism to recognize complex emotions using interactive multimedia. *Development and psychopathology, 18*(2), 591. doi: 10.1017/S0954579406060305
- Kagohara, D. M., van der Meer, L., Achmadi, D., Green, V. A., O'Reilly, M. F., Mulloy, A., ... & Sigafoos, J. (2010). Behavioral intervention promotes successful use of an iPod-based communication device by an adolescent with autism. *Clinical Case Studies, 9*(5), 328-338. doi: 10.1177/1534650110379633
- Mechling, L. C., Gast, D. L., & Seid, N. H. (2009). Using a personal digital assistant to increase independent task completion by students with autism spectrum disorder. *Journal of Autism and Developmental Disorders, 39*(10), 1420-1434. doi: 10.1007/s10803-009-0761-0
- *Mineo, B. A., Ziegler, W., Gill, S., & Salkin, D. (2009). Engagement with electronic screen media among students with autism spectrum disorders. *Journal of Autism and Developmental Disorders, 39*(1), 172-187. doi: 10.1007/s10803-008-0616-0
- Myles, B. S., Ferguson, H., & Hagiwara, T. (2007). Using a personal digital assistant to improve the recording of homework assignments by an adolescent with Asperger syndrome. *Focus on Autism and Other Developmental Disabilities, 22*(2), 96-99. doi: 10.1177/10883576070220021001
- Richter, S. & Test, D. (2011). Effects of multimedia social stories on knowledge of adult outcomes and opportunities among transition-aged youth with significant cognitive disabilities. *Education and Training in Autism and Developmental Disabilities, 46*(3), 410-424.
- *Silver, M., & Oakes, P. (2001). Evaluation of a new computer intervention to teach people with autism or Asperger syndrome to recognize and predict emotions in others. *Autism, 5*(3), 299-316. doi: 10.1177/1362361301005003007
- Stromer, R., Mackay, H. A., Howell, S. R., McVay, A. A., & Flusser, D. (1996). Teaching computer-based spelling to individuals with developmental and hearing disabilities: Transfer of stimulus control to writing tasks. *Journal of Applied Behavior Analysis, 29*(1), 25-42. doi: 10.1901/jaba.1996.29-25
- * Research which included participants in multiple age ranges.



Technology-aided Instruction & Intervention (TAII) ---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. . . ?

- Establishing 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 additional evidence-based practices...

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

This practice guide outlines how to plan for, use, and monitor the practice of **Technology-aided Instruction & Intervention**.

Keep in mind that **TAII** can be used to increase behaviors with technology.

Now you are ready to start...

Step 1: Planning

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

1.1 Conduct technology assessment for learner

TAI can be used for a variety of skills/behaviors. Before deciding to use TAI with a learner, complete the TAI Assessment for Good Fit with the learner.

Note: For more information about reinforcement, see the Reinforcement AFIRM Module.



Use the TAI Planning Worksheet as a guide when planning for TAI.

1.2 Discuss technology preferences with families and learners

Speak with the learner directly and/or with the learner's family to find out what types of technology the learner uses at home, technology preferences, and the learner's behavior using technology at home.

1.3 Identify available technology resources

Make a list of the available technology tools in the classroom, then the school, maybe in the district and at home (some students bring their own technology with them in their backpacks everyday). If no technology is available, consider purchasing technology using funds from your school, district, or even Parent-Teacher Association.

1.4 Review policies/rules concerning the use of technology

Some classrooms and most schools today have technology-related rules. Make sure to review those rules before proceeding with using TAI with your learner. You may also need to check district technology policies as well.

1.5 Prepare needed materials

Consider additional materials that may be needed to support the learner's use of the selected technology, such as visual supports, task analysis, reward chart, etc.

Note: If the learner needs additional instructions to use technology, please visit the Task Analysis module, the Visual Supports module, and/or the Modeling module.

1.6 Inform and train appropriate team members to support learner

Make sure all team members who support the learner know how to use the device so they can support its use in different settings. You may need to provide written instructions or a video demonstrating how it is to be used. Do not forget that the family may need to be trained as well.

Step 1: Planning (continued)

1.7 Schedule times to use selected TAI

Depending on the purpose for the elected TAI, there may be a need to set up a schedule of times for its use.

Note: If a learner is using a speech-generating device, the device should be accessible in all classes and settings.

 Use the TAI Planning Worksheet as a guide when planning for TAI.

Step 2: Using

This section describes the process of implementing TAI by withholding the consequences that are maintaining the interfering behavior and prompting the use of the replacement behavior.

2.1 Teach learner how to use selected TAI

It is important to make sure the learner know how to use the selected technology for the identified goal.

2.2 Review rules with learner of appropriate use

You will need to review the class/school/district rules and policies regarding technology use as appropriate.

Note: If a learner is using an application on a mobile device, consider using the guided access feature in the accessibility settings to lock the learner into the application or an app lock application to prevent unauthorized access to specific applications.

2.3 Provide prompting and reinforcement if needed for using selected TAI

You may want to plan on how you will prompt the learner to use the selected TAI. You may also need to use reinforcement for appropriate use of the TAI.

Note: For more information on prompting and reinforcement, please visit the Prompting and Reinforcement modules.

2.4 Ensure the technology is used consistently and across settings

You may want to observe how the technology is used in different settings or get feedback from others on its use. Data collection sheets are provided in the resources section.

 Use the TAI Anecdotal Data Collection Form to monitor behaviors.

Step 3: Monitoring

The following process describes how the use of TAI can be monitored and how to determine TAI steps based on the data.

3.1 Collect and analyze data

Data collection sheets are provided in the resources section to help with data collection. They include an event sampling collection sheet to show how often technology is used for its intended purpose and an anecdotal notes data collection sheet to help gather data across settings from other team members. In some cases, both data sheets may be helpful to determine if any adjustments need to be made. Depending on the specific technology use, other types of data collection may be needed.



Use the TAI Frequency Data Collection Form to monitor behaviors.



Use the TAI Anecdotal Data Collection Form to monitor behaviors.

3.2 Determine next steps based on learner progress

If the learner with ASD is showing progress with TAI based upon collected data, then continue to use this practice with the learner. Gradually new target skills and behaviors can be introduced to the learner with ASD.

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

- Is the target skill or behavior well defined?
- Is the skill or behavior measurable and observable?
- Is the skill or behavior too difficult for the learner?
- Was TAI used with fidelity (see implementation checklist)?
- Is the student motivated by technology use?
- Is the selected technology tool appropriate for the selected goal?
- Is the selected technology tool too difficult for the learner to use?
- Are all team members using/supporting TAI in a consistent manner?

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

Technology-aided Instruction & Intervention (TAII) ---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	1	2	3	4
	Date				
	Observer's Initials				
Step 1: Planning					
1.1	Conduct technology assessment for learner				
1.2	Discuss technology preferences with families and learners				
1.3	Identify available technology resources				
1.4	Review policies/rules concerning the use of technology				
1.5	Prepare needed materials				
1.6	Inform and train appropriate team members to support learner				
1.7	Schedule times to use selected TAII				
Step 2: Using					
2.1	Teach learner how to use selected TAII				
2.2	Review rules with learner of appropriate use				
2.3	Provide prompting and reinforcement if needed for using selected TAII				
2.4	Ensure the technology is used consistently and across settings				
Step 3: Monitoring					
3.1	Collect and analyze data on performance of target behavior				
3.2	Determine next steps based on learner progress				



Autism Focused Intervention
Resources & Modules

---Planning Worksheet---

Learner's Name: _____ Date/Time: _____

Observer(s): _____

Target Behavior: _____

What instructional domain does the learner's target skill/behavior address?

- | | |
|---|--|
| <input type="checkbox"/> Social | <input type="checkbox"/> Communication |
| <input type="checkbox"/> Joint Attention | <input type="checkbox"/> Behavior |
| <input type="checkbox"/> School-readiness | <input type="checkbox"/> Cognitive |
| <input type="checkbox"/> Motor | <input type="checkbox"/> Adaptive |
| <input type="checkbox"/> Vocational | <input type="checkbox"/> Academic |

Please answer the following questions to determine what level of supports may be needed:

- Does the learner have the fine motor ability to use a touchscreen independently?
 Yes No
- Does the learner have the fine motor ability to use a tactile surface such as a desktop keyboard independently?
 Yes No
- Has the learner ever used any technology tool/device in the school setting?
 Yes No
If yes, list tool/device(s): _____

- Has the learner ever used any technology tool/device in the home setting?
 Yes No
If yes, list tool/device(s): _____

- Will the learner be using the technology tool/device in multiple settings?
 Yes No
- Will additional training be needed for the learner?
 Yes No

Note: If you respond 'no' to one or more of the first four questions, consider consulting with the school or district's assistive technology specialist and/or occupational therapist.

If TAI is appropriate, continue →

Identify available technology resources:

Location	Available Options	Notes
<input type="checkbox"/> Classroom	<input type="checkbox"/> Desktop <input type="checkbox"/> Laptop <input type="checkbox"/> Tablet <input type="checkbox"/> Whiteboard <input type="checkbox"/> Other:	
<input type="checkbox"/> School	<input type="checkbox"/> Laptop <input type="checkbox"/> Tablet <input type="checkbox"/> Other:	
<input type="checkbox"/> District	<input type="checkbox"/> Laptop <input type="checkbox"/> Tablet <input type="checkbox"/> Other:	
<input type="checkbox"/> Home/Personal	<input type="checkbox"/> Desktop <input type="checkbox"/> Laptop <input type="checkbox"/> Tablet <input type="checkbox"/> Mobile device <input type="checkbox"/> Other:	

What if there are no technologies available?

Questions	Available	Notes
<i>Are there funds available to purchase technology?</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>Is there a state or local technology lending library?</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Continue →

Identify policies/rules regarding the use of technology:

Questions	Applicable	Policies/Rules
<i>Are there any classroom rules regarding technology use?</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>Are there any school rules/policies regarding technology use?</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>Are there any district policies regarding technology use?</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>Does the learner's family have any rules/preferences regarding use of technology?</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Prepare materials:

Questions	Applicable	Notes
<i>Are any other materials needed to facilitate use of the technology?</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>Are visual supports needed to help the learner use the technology?</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>Do written directions need to be provided on how to use the technology?</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Continue →

Identify and train team members:

Team Members	Notes
<input type="checkbox"/> Learner <input type="checkbox"/> Family Member(s): _____ _____ <input type="checkbox"/> Special education <input type="checkbox"/> General education <input type="checkbox"/> Specials (e.g., PE, music, library, computer, etc.) <input type="checkbox"/> Paraprofessionals/Teacher Assistants <input type="checkbox"/> Speech therapist <input type="checkbox"/> Occupational therapist <input type="checkbox"/> Physical therapist <input type="checkbox"/> Lunchroom workers <input type="checkbox"/> Custodians <input type="checkbox"/> Other(s): _____ _____	

Identify times to use TAI:

Daily Schedule	Monday	Tuesday	Wednesday	Thursday	Friday
Class:					
Lunch					
Other:					
Other:					

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



Autism Focused Intervention
Resources & Modules

---TAII Anecdotal Notes---

Learner's Name: _____ Date/Time: _____

Observer(s): _____

Target Behavior(s): _____

Anecdotal Notes:

Date	Time	Notes
	<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After	
	<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After	
	<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After	
	<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After	
	<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After	
	<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After	
	<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After	
	<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After	

**For more
information, visit:**
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Autism Focused Intervention
Resources & Modules

---TAII Frequency Data Collection---

Learner's Name: _____ Date/Time: _____

Observer(s): _____

Target Behavior(s): _____

Frequency Data:

Use frequency recording to collect data on every instance of the target behavior.

Date	Tally	Total	Time
			<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After
			<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After
			<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After
			<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After
			<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After
			<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After
			<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After
			<input type="checkbox"/> Before <input type="checkbox"/> During <input type="checkbox"/> After

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

Technology-aided Instruction & Intervention (TAII) ---Professional's Guide---

Technology-aided Instruction & Intervention

Technology-aided Instruction & Intervention ...

- is an evidence-based practice for children and youth with autism spectrum disorder (ASD) from 3 to 22 years old that can be implemented for multiple goals.
- can be used by teachers and team members (paraprofessionals, speech pathologists, parents) in school, community, and home environments.



Why Use?

- TAI can help decrease adult support and increase learner independence
- TAI can make learning predictable for learners with ASD
- TAI can be used to foster communication through the use of specially designed devices and applications that generate speech

Outcomes

- The evidence – base for TAI 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)
No studies	Social	Social	Social	Social
	Communication	Communication	Communication	Communication
		Joint Attention	Joint Attention	Joint Attention
		Behavior	Behavior	Behavior
	School-Readiness	School-Readiness	School-Readiness	School-Readiness
	Cognitive			
				Motor
				Adaptive
			Vocational	Vocational
	Academic		Academic	Academic

TIPS:

- Assess the learner before selecting a technology tool
- Spend time learning how to use the technology tool before teaching the learner and additional team members how to use the technology tool
- Monitor the learner to ensure the technology tool is being used for the intended purpose.



Technology-aided Instruction & Intervention (TAII) ---Professional's Guide---

STEPS FOR IMPLEMENTING

1. Plan

- Conduct technology assessment for learner
- Discuss technology preferences with families and learners
- Identify available technology resources
- Review policies/rules concerning the use of technology
- Prepare needed materials
- Inform and train appropriate team members to support learner
- Schedule times to use selected TAII

2. Use

- Teach learner how to use selected TAII
- Review rules with learner of appropriate use
- Provide prompting and reinforcement if needed for using selected TAII
- Ensure the technology is used consistently and across settings

3. Monitor

- Collect data on targeted skills and use of TAII
- Determine next steps based on learner progress

Technology-aided Instruction & Intervention

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

For more information, visit:





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

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

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

Technology-aided Instruction and Intervention (TAIL) ---Parent's Guide---

This introduction provides basic information about TAIL

What is TAIL?

- Technology-aided instruction and intervention (TAIL) refers to instruction or intervention in which technology is the central feature supporting the acquisition of a goal for the learner.
- With TAIL, teachers and practitioners focus on targeted skills and behaviors and how these skills/behaviors can be acquired through using an available technology tool or application.

Why use TAIL with my child?

- Technology can increase independence because it enables learners to work at their own pace, work at their own level of understanding, repeat lessons until mastery is achieved, reduce social demands, and provide a communication system.
- TAIL has been used with young children through young adults to address a variety of goals including social, communication, behavior, joint attention, cognition, school-readiness, academic, motor, adaptive, and vocational outcomes.

What activities can I do at home?

- Think about how you could use technology to increase your child's independence or help motivate your child to engage in tasks at home.
- Create a list of technology tools and resources you have available in your home and share this list with your child's teacher(s).
- Take note of any challenges your child has if they currently use technology in the home (e.g., fine motor challenges, only wanting to use a tablet to watch videos, etc.) and share your notes and observations with your child's teacher(s). This will help the team choose an appropriate technology tool.



AFIRM

Autism Focused Intervention
Resources & Modules

Check out
these
resources to
support your
use of
Technology-
aided
Instruction &
Intervention.

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

---Additional Resources---

Articles:

- Alison, C., Root, J. R., Browder, D. M., & Wood, L. (2017). Technology-based shared story reading for students with autism who are English-language learners. *Journal of Special Education Technology, 32*(2), 91-101. 10.1177/0162643417690606
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Continue →

App:



Autism Apps *Autism Apps* by Touch Autism (Free)

Books:

- Boser, K. I., Goodwin, M. S., & Wayland, S. C. (2014). *Technology tools for students with autism: innovations that enhance independence and learning*. Baltimore: Paul H. Brookes Publishing Co.
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Autism Focused Intervention
Resources & Modules

Technology-aided Instruction & 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 Technology-aided Instruction & Intervention (TAII) module.

Standard	Description
Initial Preparation Standard 2: Learning Environments	
ISCI 2 S3	Identify supports needed for integration into various program placements
Initial Preparation Standard 5: Instructional Planning & Strategies	
ISCI 5 K3	Augmentative and assistive communication strategies
ISCI 5 S7	Incorporate and implement instructional and assistive technology into the educational program
DDA5 S2	Implement instructional programs that promote effective communication skills using verbal and augmentative/alternative communication systems for individuals with developmental disabilities/autism spectrum disorders

Standard	Description
Advanced Preparation Standard 7: Collaboration	
SEDASS7.S3	Collaborate with families and other team members in non-judgmental ways to make informed decisions about interventions and life planning

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

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