

Strategies for Teaching based-on Autism Research: *The STAR Program*

Portions of the information in this handout were taken from the STAR Program Manual, published by Pro-Ed, Austin, TX (Arick, Loos, Falco, and Krug, 2004) and should not be copied without the authors' permission. This handout is to be accompanied with a live training. It is not intended to be a stand-alone document.

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The STAR Program: Version 2 Strategies for Teaching based on Autism Research



A Comprehensive Research-Based Behavioral Program

Applied Behavioral Analysis (ABA) Instructional Strategies Used:

- Discrete Trial
- Pivotal Response Training
- Teaching Functional Routines
- Positive Behavior Supports

Six Curriculum Content Areas Addressed:

- Expressive language
- Receptive language
- Spontaneous language
- Functional routines
- Pre-academic skills
- Play and social interaction concepts

Why use the Behavioral Strategies included in the STAR Program?

Research since the 70's has shown that students with ASD can learn to communicate using behavioral principles.

Parents, school districts and the literature have consistently called for more intensive programs for students with ASD.

Current experts in the field consistently document the need for a behaviorally-based educational program for students with autism.

Evidence-based Practices

National Standards Report



National Standards Project: 11 Established Treatments

- Comprehensive Treatment Packages
 - Comprehensive Behavioral Treatment for Young Children (discrete trial)
 - Antecedent Package (ABA, positive behavior supports)
 - Behavioral Package (ABA, positive behavior supports, token systems)
- ♦ Pivotal Response Training
- Schedules

- Self-management (promoting independence)
- ♦ Peer Training Package
- Joint Attention Intervention (respond or initiate joint attention)
- Modeling (imitation of target behavior)
- Naturalistic Teaching Strategies (child-directed to teach functional skills)
- Story-based Intervention Package

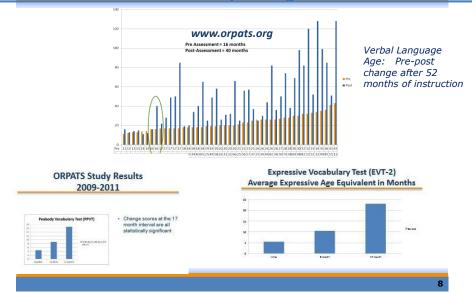
Research on the STAR Program (*Research-validated Curriculum*)

- Oregon Autism Outcome Study. (Arick, J., Young, H., Falco, R., Loos, L., Krug, D., Gense, M. and Johnson, S. 2003)
- Philadelphia Autism Instructional Methods Study (AIMS) represents an academic-public partnership designed to improve intervention quality for elementary school children with autism in the School District of Philadelphia. Mandell (2010).

Results of the study indicated students made clinically significant gains in classrooms where STAR was implemented with fidelity.

 Measuring Outcomes in Early Intervention Program. (Bacon, E., Dufek, S., Schreibmann, L., Stahmer, A., Pierce, K. and Courchesne, E. 2014)
 Children in early intervention programs made significant skill gains. Student Learning Profile correlated highly with standardized measures





Comprehensive Programs Include......

How To Teach

Evidence-based and Research-validated Instructional Strategies

What To Teach

Appropriate Content of Instruction

Everything Working Together

a. IEP Goals b. Connection to General Education Curriculum c. Alignment with Standards

STAR: Instruction and Curriculum

Three instructional: Levels I, II, and III

Research-based instructional strategies and curriculum

Aligns to the Common Core

Uses short 1:1 sessions to teach new skills

Generalize skills & teach independence through daily routines and activities

STAR Program Curriculum Students Learn to...

Examples at Level I:

- Use basic language concepts
- Make verbal requests
- Accomplishment simple routines independently
- Engage in beginning play/social skills
- Use pre-academic skills

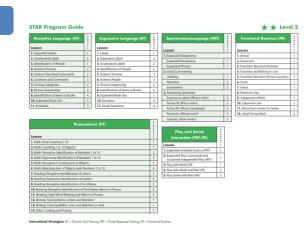
Receptive Language (DT)	*****	Expressive Language (PRT)	se que o	Functional Routines (FR)	** * * *	Preacademic (DT)		Play and Social Interaction (PRT/FF	R
Lesson	e e	Lesson	÷.	Lesson	i e	Lesson	i i	Lesson	
1. Come Here	1	1. Readiness Skills:		1. Arrival	1	1. Use of Token Board	1*	1. Readiness for Play (PRT)	1
2. Attending	1*	Attending		2. Departure	1	2. Matching Colors	1	Sharing	i
3. Receptive Actions on a Walk	1	Babbling	L'.	3. Transition Between		3. Matching Shapes	1	Turn Taking	
4. Social Communication	7*	Sound Pairing	2	Activities		4. Caloring/Scribbling	1	2. Initial Play Skills (PRT)	i
5. Nonverbal Imitation:		2. Initial Requesting:		4. Hand Washing	1			Initial Imitated Actions	
Gross Motor	· ·	Initial Verbal Imitation	3	5. Snack	1			Initial Play Commands	
 Nonverbal Imitation: Object 	1	Spontaneous Words	4	6. Restroom Use	1			3. Independent Play (FR)	
7. Matching: Object to		3. Phrases for Requests:		7. Going on a Walk	1			4. Play with Adult (FR)	
Object	1**	Requests using 'Want's."	5	8. Circle	1				
8. Matching: Picture to		Requests using 'I want x.'	6	9. Centers/Choice	2				
Picture	2	"More x"	6	10. Learning to Work with Teacher	1				
9. Matching: Object to Picture	3	"No x" for rejecting	6	11. Work with Teacher	2	-			
10. Matching: Object to			-	12. Simple Art Activitiy	2		+		
Picture and "Give Me X"	4		-	13. Independent Work	2	1	+		
11. Labels of Objects	5		-			I	+		
12. Labels of Pictures	6		-				+		
13. Identification of Body Parts	5								
14. Actions: One-Step			- T	I			_		

Instructional Strategiess ID - Discrete First Instring, PET = Install Response Training, PE = Functional Routress "These Response should be conducted similareavoidy with other lessons and are not meant to be stand-abore Respon-"This liness in the only prerequisite Response to be completed prior to Ississ of Exemption Language Response 1.6 are not prerequisite Response for Lessons."

STAR Program Curriculum Students Learn To....

Examples at Level II:

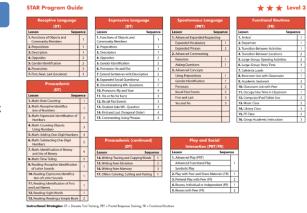
- Expand language concepts to include, many new nouns, people, actions, two-step commands, book use and emotions
- Use spontaneous language throughout the day
- Become independent in typical daily school routines
- Use basic math, reading and writing academic skills
- Play with others at school



STAR Program Curriculum Students Learn To....

Examples at Level III:

- Understand complex language concepts including, prepositions, pronouns, adjectives, commenting, conversational exchanges and recalling past events
- Academic skills including, reading a simple book, writing from memory, time telling, money use and adding/subtracting 1 digit numbers
- Generalize skills in general education settings



Curriculum Areas are Independent

	Receptive langua concepts (DT)	ge		e q u e		concep				6 9 8 8			onal r	outir	nes (FR)	e q u e	_	_	lemic co	oncepts (DT)	e que				and social oncepts (PRT/FR)	
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1	Come Here			1	Babbling and				nd Pair	ing	1	An	rival			1	1	U	se of Tok	en Board	1	1			ng and Sharing	Т
2	Attending			1	1	Babbling				1	2	De	parture	;		1	2	: M	latching 0	Colors	2	1			id Learning	ł
3	Receptive Actions			1	ſ	Sound	pair	ring		2	3		nsition	Betv	veen	1	3	M	latching 5	Shapes	3	<u> </u>			(PRT) with Toys:	+
4	Social Communica	tion		1		Imitation	of	Word	ls for R	equests	1		tivities				4	+ C	Coloring/Scribbling			2			with Toys: active and	ł
5	Nonverbal Imitatio	en:		1	L L	Imitati	on (of sou	inds	3	4		ndwasi	hing		1									nal (PRT)	ł
	Gross Motor				2	and we					5	Sni				1						3	Ir	deper	ndent Play (FR)	1
6	Nonverbal Imitatio	82	EXO	1	ive lan	Sponta	neo	us w	ords	neuro			t Root	n Use	nctional	1									isocial interaction	
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1	Expanded Labels	1	1	L	abels	1			R	equesti	ng		1	A	rrival		1	1	Math: H	Rote Counting to	10	1	1	E	xpanded Learning	Τ
2	Accelerated Labels	2	2	E	xpanded	Labels	2	1		Vocab	alary	1	2	D	eparture		1	2		Counting 1 to 10		2		Т	o Play (PRT)	
3	Identification of	1	3	A	ccelerate	ed Labels	2				nouns, verbs,			Tr	ransition		1		Objects			\rightarrow		E	xpanded Playing	
	People		4	Id	lentificat	tion of	2	1		adjecti adverb					etween			3		Receptive Identific bers 1 to 10	atio	n 2		w	ith Toys (PRT)	
4	Actions: Pictures	2		People					*) length	1		-	ctivities		H	4		Expressive Identifi	cati	on 3	2		Playing with toys	Τ		
5	Actions: Two-Step	2	5	A	ctions: P	ictures	2				words)	1	- 4		ransition etween		3		of Numbers 1 to 10			~~ ²	2		Independent	1
	Commands		6	Α	ctions: P	People	3						L.	Do 1				5	Math: I	Receptive Countin	ur.	3			constructive play	
	ptive language incepts (DT)	ę	Ex		essive l oncept:	languag s (DT)		e q u			ous lar pts (Pf		je e		Functi routine			ę	Preac						ind social interactioncepts (PRT/FR)	
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1	Functions of Objects	1	1	+	Function	is of Object	5	1		Adv	unced Ex	panded	_		1 Arriva	1		1	1	Math: Rote Cour	ting		1		Advanced Play (PRT	C)
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	Prepositions Descriptors	1	2		Prepositi Descript		_	1			Expanded phrase length				Activi				3	Math: Expressive Identification of I	Var	bers	2	2	Play with Peer and	
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	Opposites Gender Identification	2	4		Opposite	es Identificativ	_	2		-	loon + ort		ting 1	-	5 Large			2		Objects Using Nu	umb	:15		3	Play Game with Peer (FR)	
-	Possessives	2	6	_		identifications in: He and S		3	2		escriptor	3011 +	1		5 Large Openi				5	Math: Adding			4	4	Peer (FR) Pretend Play with	-
	First, Next, Last	3	7			se rie and e Sentences	1.00	2	2	0	omplete	imple	2		6 Large			3	6	One-Digit Numb Math: Subtracting			-	*	Peer (FR)	
	(Location)	1	L ´		with Des			[*]							Story				0	Math: Subtracting One-Digit Numb			2	5	Recess: Individual or	-
										Exclamation 2				7 Cafete					Math: Identificati					Independent (FR)		

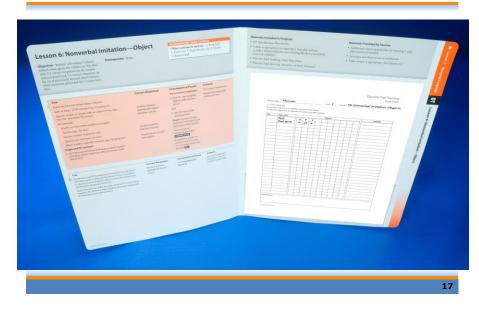
Curriculum-Based Assessment Example

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				riteria					-	-											
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			a				22 15		1 (Dat		ent R	espo	nse /	J	(De	Stud	ient I	lesp)	5	Notes
1. Come Here	"Mame, come here."	Areas in class, student comes to teacher from feet away.	1	0-2		3-6	0	3	0	2	1	8-6	7-	10	-	-2	Γ	3-6	7	-10	
		In hallway, student comes to teacher fromfeet away.	1	0-2	Ŀ	-6	C	3	0-	2	,	-6	7-	10	-	-2	Γ	3-6	7	-10	
		Outside, student comes to teacher from feet away.	1	0-2		3-6	C	3	0-	2	,	5-6	7-	10		-2	Γ	3-6	7	-10	
2. Attending*	"Sit down."	Student sits down.		No		Yes	G		N	0		fes		5		¥0		Yes	Т	G	
	"Hands down,"	Student puts hands down.	10	No		Yes	G		N	0	1	fes	(5		чю	Ľ	Yes	T	G	
	"Look at me."	Student looks at teacher.	1	No	ΤČ	100	G	11	N	0	1	fes	(;	1	¥о	Т	Yes	T	G	
	"Stand up."	Student stands up.	10	No	Т	Yes	G		N	0	1	fes	0	5		ŴΟ	Т	Yes	Т	G	
3. Receptive Actions on a Walk	"Walk with me."	Student walks beside teacher (without holding hands).	17	Ň	Г	Yes	G	1	N	0	7	fes	4	2		ŴΟ	Г	Yes	Т	G	
	"Stop."	Student stops.	117	NO	1	Yes	G	11	N	0	1	fes	1	5		νlo	T	Yes	T	G	
	"Wait."	Student waits (while standing).	117	No	1	Yes	G	11	N	0		fes	1	5		ŵo	T	Yes	T	G	
	"Sit down."	Student sits down.	17	No		Yes	G	11	N	0	1	fes	6	;		νo	\top	Yes	+	G	
	"Stand up."	Student stands up from sitting.	117	No	T	Yes	G	11	N	0		fes	1	5		ψo	T	Yes	T	G	
	"Jump"	Student jumps.	117	No	1	Ves	6	11	N	0	1	fei	6	5	-	ŵ0	T	Yes	T	6	
	'Bun'	Student runs.	17	No		Yes	G	11	N	0	1	res.	6	;		ŵο	\top	Yes	+	G	
4. Social Communication*	"My turn."	Student gives up item.	1	No	0	1	6	1	N	0	7	fes	1	3		ŵ0	Г	Yes	Т	G	
	"Wrye (with model)."	Student waves.	11	No	10	Yes	G	-11	N	0	5	fer	6	5		Ϋo	+	Yes	+	G	
	"Give me five."	Student slaps hand with teacher.	11	No	3	16	6	11	N	0		fes	0	2	No			Yes		6	
	"Break time."	Student gets up and leaves work space.	11	No	0	Ye)	G	1	N	0	Yes G		5	No		Yes		T	6		
5. Norwerbal Imitation—Gross Motor	Model action (e.g., clap hands) and say, "Do this."	Student imitates gross motor action. Note the number of actions.	C) [,]	2 2	4	5	6	0	2	3	4	5	G	0	1	2 2	4	5	G	
 Nonverbal Imitation— Object 	Model object action (e.g., rings bell) and say, "Do this."	Student imitates object action. Note the number of actions.	C) ·	2 3	4	5	G	0	2	3	4	5	G	0	1	2 2	4	5	G	
 Matching—Object to Object 	Place 5 objects in front of stu- dent and 1 similar object 6–10 inches away. Say, 'Match x.'	Student places the like object on or near the example. Note the number of objects.	0	1	2 3	4	۶Ç	ð	0	2	3	4	5	G	0	1	2 3	4	5	G	
 Matching—Picture to Picture 	Place 5 pictures of functional objects in front of student and 1 similar picture 6-10 inches away, Say, 'Match a'	Student places the like picture on or near the example. Note the number of pictures.	G) [,]	2 3	4	5	G	0	2	3	4	5	G	0	1	2 2	4	5	6	
9. Matching*Object to Picture	Place 5 objects and 1 cor- responding picture in front of student and say, "Match x."	Student picks up correct object and places it on top of picture. Note the number of objects.	¢) '	2 3	4	5	G	0	2	3	4	5	G	0	1	2 2	4	5	G	

STAR Program Provides Continuous Progress Monitoring

Receptive Language (DT)		Expressive Language (PRT)	Sequen,	Functional Routines (FR)	Sequen	Preacademic (DT)	5.00.0	Play and Social Interaction (PRT/FR)		lesson
Lesson X Come Here	è	Lesson	÷	Lesson XArrival	è	Lesson Lesson	- 1*	Lesson Readiness for Play (PRT)	i i	X: mastered this
K Attending	1	Attending	-	Departure	<u>+</u>	2. Matching Colors	1	Sharing	11	
Receptive Actions on a Walk	1	Babbling	1	Gransition Between	<u> </u>	2. Matching Colors 3. Matching Shapes	1	Turn Taking	2	lesson
Social Communication	1.	Sound Pairing	1	Activities	1	4. Coloring/Scribbling	1	2. Initial Play Skills (PRT)	14	lesson
Nonverbal Imitation:		2. Initial Requesting:	1	4. Hand Washing	1	A convergence	-	2. Initial Imitated Actions	1.3	
Gross Motor		Initial Verbal Imitation	1	(Dirack	1	1	-	Initial Play Commands	4	
Nonverbal Imitation:		Spontaneous Words	4	6. Restroom Use	1	1	-	3. Independent Play (FR)	3	
Object	Ľ-1	3. Phrases for Requests:	<u> </u>	7. Going on a Walk	1	1	-	4, Play with Adult (FR)	4	
KMatching: Object to Object	1	Requests using "Want x."	5	8. Circle	1	1	-	Array warranter	1 1	
Matching: Picture to	-	Requests using "I want x."	6	9. Centers/Choice	2	1	-			
Picture	2	"More x"	6	10. Learning to Work with	1		-			
9. Matching: Object to		"No x" for rejecting	6	Teacher	<u> </u>					
Picture	,		-	11. Work with Teacher	2					
10. Matching: Object to Picture and "Give Me X"	4			12. Simple Art Activitiy	2					Easily link
				13. Independent Work	2					
11. Labels of Objects	5			1	-					
12. Labels of Pictures 13. Identification of Body	6			1	-					assessment and
Parts	5			1	-					assessment and
14. Actions: One-Step	5			1	-					
	5									lessons to
										IEP/IFSP Goals

Lesson Plan



Organizational Ideas

STAR Folders in Student "Bins"

Notebook, Reinforcers and Manipulatives in the bin-





Research-Based (ABA) Instructional Strategies Used in the STAR Program:

- Discrete Trial Training is used to teach new skills (acquisition)
- Pivotal Response Training is used to teach student to request their wants and to use skills in a more naturalistic setting
- Functional Routines Teaching is used to apply new skills in a variety of natural settings in context (generalization)
- Positive Behavior Supports throughout the day

Discrete Trial Training



Discrete Trial Training in the STAR Program Can Help Students with ASD Learn:

- ♦ Receptive language and academic skills
- To connect words to objects/people and activities
- Discriminate between visual stimuli and auditory stimuli



Videos: Level 2 Receptive Accelerated Labels Level 2 Expressive Expanded Labels Level 2 Pre-Academic Match Name to Picture

Pivotal Response Training



Pivotal Response Training in the STAR Program Can Help Students with ASD Learn:

- Expressive language, and play and social interaction skills
- ♦To use language in naturalistic settings
- ♦ Joint play activities
- To understand the relationship between people and objects

♦ How to interact with others

Videos: Level 1 Exploring and Sharing Toys and Learning to Play Level 2 Spontaneous Requesting

Functional Routines Throughout the Day



Teaching Functional Routines in the STAR Program Can Help Students with ASD Learn:

To generalize skills taught using discrete trial training and pivotal response training

♦ Independence

- ♦ Activities that have a beginning, middle, and end
 - Examples: Arrival, Individual Seatwork, Eating Lunch, etc.
- That the functional outcome of the routine serves as the reinforcer (e.g. obtains lunch during the eating lunch routine)

Video: Level 2 Circle Routine

Positive Behavior Supports



Throughout the instructional day, students are provided continual reinforcement and positive feedback to assist them in learning appropriate behaviors and social skills.

STAR Media Center: Scheduling, Routine and Training Supports







28