

Reciprocal Imitation Training



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Introduction

Imitation is a pivotal skill in early development through which children learn new skills and engage in social interactions with others. Imitation plays a key role in the development of social communication, which includes language, pretend play, social interaction, and emotional exchange. Most children with ASD have difficulty imitating others. Imitation is an important treatment goal for young children with ASD because research suggests that improving imitation skills may lead to improvements in these other social-communication skills. Recent research suggests that children with ASD may have particular difficulty imitating in unstructured settings for social purposes. Therefore, interventions which can teach spontaneous imitation skills during natural interactions may be particularly effective for promoting flexible, social imitation and other social-communication skills.

Reciprocal imitation training (RIT) is a naturalistic intervention designed to teach young children with autism to imitate spontaneously during on-going play interactions with a play partner. The goal of this technique is to teach your child to imitate as a means of social interaction and therefore, it is more important that your child attempt to copy your actions than to perform any specific action correctly. RIT can be implemented in a variety of play settings (e.g., inside, outside) as well as during daily routines (e.g., bath time). This technique uses several strategies to teach imitation skills.

Research on RIT shows that it is effective for teaching object and gesture imitation skills. In addition, it increases other social-communication skills such as social engagement, language, pretend play, and gesture use. This approach can be very effective when implemented by parents. It is recommended that you practice this intervention at home with your child for 20 minutes a day during play. You can also use some of the RIT strategies during your child's daily routines.

Select Materials

Although RIT can be implemented during a variety of activities that don't use toys, such as the bath, or outside, toys are an important part of teaching imitation skills. It is important to choose toys that your child enjoys playing with. Toys that can be used in many different ways are better than toys that have only one or two functions (such as mechanical toys). Also, toys that are interesting but not overly absorbing are better than very absorbing toys because your child will be better able to pay attention to you if he or she is not overly absorbed by the toys. Have several different toys available so that your child can select the toys he or she is most interested in.

It's best if you have two sets of the same or similar toys, so that your child can have one and you can have one. This also allows you to imitate your child's play at the same time he or she is playing. It also allows you to model new ways for your child to play without having to take your child's toy away.

Recommended Toys

Nesting toys
Stacking toys
Blocks
Balls
Slinkies
Musical toys

Dolls/stuffed animals
Miniatures
Pretend food
Vehicles
Playdoh
Art s & crafts

Imitate Your Child

The basis of RIT relies on imitating all of your child's gestures, vocalizations, and actions with toys. Imitating your child's play promotes shared attention and social responsiveness in children with ASD and increases the number of different play ideas your child has. Imitating your child's speech or preverbal vocalizations promotes the use of spontaneous language and vocalizations. Imitating your child also lays the groundwork for teaching reciprocal imitation because your child learns that imitation is a back and forth interaction. For this reason, it is important to imitate most of your child's actions, even unusual play, body movements, or vocalizations. By doing this, you tell your child that you are interested in how he or she likes to play. You will have the opportunity to teach your child more appropriate play, gestures, and language when it is your child's turn to imitate you! The following strategies will make imitating your child most effective.

Be face to face

Make sure that you are always in your child's line of sight so that he or she can easily make eye contact with you and see what you are doing. Sit so that you are face to face with your child, so that he or she can make eye contact easily. If your child has a hard time sitting, you will need to move around to stay face to face with your child.

Imitate play with toys

Imitate what your child is doing with the toys he or she chooses to play with. For example, if your child is rolling a car back and forth on the ground, you would roll another car back and forth. If your child is spinning the wheels of a car, you would spin the wheels of another car as well. *Remember, don't become frustrated if your child chooses to play with toys or other objects in an unusual way.*

Imitate gestures and body movements

Imitate your child's gestures and body movements. This will also help your child realize that you are imitating him or her and that his or her behavior is meaningful and can influence how you act. Imitating gestures and body movements is especially helpful when your child is not engaged with a toy. For example, if your child is wandering around the room, follow the same path purposefully, while trying to remain face to face. Children often find this behavior quite funny and really enjoy interacting this way.

Imitate vocalizations

For children who are preverbal or just starting to talk, it is important to imitate all your child's vocalizations and words. With a verbal child, it is recommended that you only imitate language that is appropriate to the context of the play. Again, when using this technique it is important to be visible and animated.

Be animated

Exaggerate your imitations of your child's gestures, facial expressions, and vocal quality to draw attention to the fact that you are imitating your him or her. While imitating your child, you can vary your imitations slightly to keep them interesting. For example, if your child drops a toy on the ground without paying attention to it, you can bounce your toy on the ground in an exaggerated way. Also, you can pause with an expectant look in the middle of imitating your child to encourage your child to initiate for you to continue the game. Use words like "Uh Oh", "Oh No", "Ready, set, go", sound effects and gasping to let your child know you have something to share.

Only imitate appropriate behavior

Imitating your child will typically increase the behavior that is being imitated. Therefore, when imitating your child, it is important to decide which behaviors to imitate. For children who exhibit little to no appropriate play, try to imitate every appropriate action or vocalization. This could include, throwing a ball, looking in the mirror, babbling etc. Do not imitate behaviors that are dangerous or aggressive such as hitting or breaking toys. If your child uses behaviors you do not want to see increase you can "imitate" that behavior while shaping it into something more appropriate. For example, if your child is mouthing an object, you can pretend to eat a similar object, or if your child is flapping his or her hands to show excitement you could "imitate" the excitement but express it by clapping your hands. For children that have a majority of appropriate play, try to imitate only the appropriate behaviors.

Control the situation

While you want to imitate your child, it is equally important to be consistent with rules and consequences. Do not allow behaviors that could destroy property or injure the child or another. Remember that you are in control of the situation and therefore determine which behaviors are acceptable. If your child engages in an unacceptable behavior, you should make it clear to your child that this behavior is not OK and remove the toys or objects that are causing a problem.

Describe Your Play

Describe what you and your child are doing to highlight the fact that you are both doing the same thing. This is an opportunity to give meaning to your child's play when it is not yet meaningful. For example, if your child (and you!) are lining up cars, you can give it a purpose by saying "We parked the cars". If your child (and you!) are just holding a block in your hands, you can say "We're hiding blocks." Describing your play should look somewhat like a running commentary or a sports announcer; however, be sure to pause to give your child the opportunity to respond.

Another reason for describing your play is to help your child understand language and use new language. Many children with ASD have difficulty understanding spoken language because it moves so quickly. By changing the way you speak to your child, you can help him or her understand what you say. The following strategies will help make describing your play most effective.

Simplify your language

Use simple words or sentences to help your child understand what you say. Use simple language that is slightly more complex than your child's language. For example, if your child is not using words, use single words; if he or she uses single words, use 2-3 word phrases. In some cases, it is appropriate to simplify your language by leaving out higher level parts of language (e.g., "Feed baby" instead of "You are feeding the baby").

Speak slowly

Slow down your rate of speech. The slower you speak, the more your child will be able to pick out the important words and meaning. Although you want to provide a running commentary, make sure to give your child a chance to respond. Pause between comments to give your child time to process the auditory information.

Stress important words

Children often have a hard time recognizing important words in sentences. You can help your child pick up "meaning" words by pausing before important words and stressing them ("We have a...BUNNY").

Be repetitive

Use the same language over and over. You can use the same phrase repetitively ("Down it goes. Down it goes") or you can repeat specific important words ("Car is rolling. Roll, roll. Rolling fast").

Expand your child's language

Expand your child's language by imitating your child's speech and then *adding* more information. By adding more words, you revise and complete your child's speech - *without direct correction*. For example, if your child says "buh", you could say "ball". If your child says "train" you could say "yellow train". If your child says "I push car", you could say "I am pushing the car".

Teach Object Imitation

To teach imitation, you will begin going back and forth between imitating your child, and providing opportunities for your child to imitate you. The goal is to get into a back and forth “social game” where you and your child take turns imitating each other. Of course, you will be doing most of the imitation; your child will only be expected to imitate you once every one to two minutes. In order to help your child learn to imitate, you will use physical guidance and praise. The following strategies will make teaching imitation most effective.

Model actions with the same toy

In order to increase your child’s ability to pay attention to your actions and motivation to imitate, you should model an action with the same toy your child is already playing with. Every minute (on average), model an action with the duplicate of the toy your child is engaged with. Make sure that your child is attending to you (making eye contact or watching your actions) when you model actions. Imitating your child should help increase attention, but you may also call your child’s name, or block his or her play to get his or her attention if necessary. Also, it is important that your child knows this is something he or she should imitate, so make sure the action is “big” so that your child notices it. If your child is not engaged with a toy, try to get him or her interested in a toy or model an action with the last toy your child was playing with.

Use a verbal label with the action

When you model the action, you want your child to pay attention and imitate. However, you want your child to learn to imitate you spontaneously, rather than on command. Therefore, rather than telling your child to imitate (e.g., “Do this.”) or telling your child what to do (e.g., “Give the baby a drink”), you should use a “verbal label” to describe what you are doing. This way your child will learn to imitate when you model an action and talk about it, rather than only when you tell him or her to do so. Verbal labels should be short, at or slightly above your child’s language level, be said clearly and stressed, and describe the action without giving a command. For example, when modeling rolling a ball, make sure your child is watching you, roll the ball with an exaggerated gesture, and say “Roll”. To help your child imitate in many context, vary what you say (i.e., say “bounce” one time and “boing” another when modeling the same action at different times). If your child has a very difficult time paying attention to what you are doing, you can say his or her name to get his attention first; but try to avoid doing this every time or your child will learn to imitation only when you say his or her name.

Model actions your child is likely to imitate

You will want to begin by modeling actions that your child is naturally inclined to want to imitate. This includes actions that your child already performs on his or her own (familiar actions) as well as actions that are at or slightly above your child’s developmental level. If you model actions that are too advanced, your child is less likely to understand the action and imitate. To decide good actions to model, watch what your child does with toys on his or her own and model similar actions. If your child likes to explore toys by banging, throwing, and dropping them, model these types of actions as well as nesting one object in another, putting objects in containers, lining, stacking, or ordering toys in certain ways. If your child uses most common toys appropriately, such as pushing cars, putting people in cars, and throwing and catching balls, model these types of actions as well as some basic pretend

actions. The following table can give you some ideas of your child’s play level help you decide what types of actions are appropriate to model. *Remember, the actions you model do not have to be functional or “appropriate”; the goal is to increase your child’s motivation to imitate your behavior!*

<i>Play Stage</i>	<i>Description</i>
<i>Exploratory Play</i>	Your child plays with toys mainly by exploring by touching, mouthing, visually examining, smelling, banging, throwing, and dropping them.
<i>Combinatorial Play</i>	Your child combines toys together by nesting one object in another, putting objects in containers, lining, stacking, or ordering toys in certain ways.
<i>Cause and Effect</i>	Your child uses cause and effect toys such as pop-up toys and music toys.
<i>Functional play</i>	Your child is using most common toys appropriately, such as pushing cars, putting people in cars, and throwing and catching balls.
<i>Self-directed pretend play</i>	Your child directs some basic pretend play actions towards himself. Examples could include pretending to eat, pretending to sleep, and pretending to talk on a toy phone.
<i>Other-directed pretend play</i>	Your child directs basic pretend play towards another person or a doll or other toy, such as pretending to feed a parent or a baby doll, dressing a doll, putting a doll to bed.
<i>Symbolic play</i>	Your child begins to pretend that one thing represents another, attributes characteristics to an object that it does not have, and animates objects. For example, he might pretend a block is a car or a stack of blocks is a building. He may pretend that toy food tastes “yummy” or “yucky”. He may make a figurine walk or have a doll hold a cup rather than placing a cup to the doll’s mouth and he may engage in pantomime such as opening an imaginary door.
<i>Complex pretend play</i>	Your child links several pretend actions together to tell an extended story with toys. For example, your child puts a doll in the car and drives the car to the store.
<i>Imaginary role-play</i>	Your child takes on an imaginary role during play such as pretending to be a doctor, fireman, a mommy/daddy, or superhero.
<i>Socio-dramatic play</i>	Your child tells an extended story while taking on an imaginary role with at least one other person. For example, your child pretends to be a teacher while his sister pretends to be a student.

Model the action up to three times and then prompt

Give your child several opportunities to imitate the action spontaneously. Model the action with a verbal label and wait 10 seconds for your child to imitate. If he or she does not imitate spontaneously after 10 seconds, model the same action again with the same verbal label. Do this up to three times. If your child does not imitate after the third model, you may tell your child “You do it” if he or she responds to verbal instructions; otherwise physically guide your child to imitate you.

Praise your child for imitating

As soon as your child imitates you, praise him or her with verbal praise and physical affection if your child enjoys this. Praise should be more intense if your child imitates you spontaneously than if you need to physically guide your child to imitate. It is more important for your child to match your actions in general, than to perform a specific action exactly, so be sure to praise any attempt at imitation even if it is not perfect. After your child has imitated your action or gesture, let your child play with the toys as he or she likes for the next minute and go back to imitating your child.

Expand Your Child's Play Skills

Once your child is able to imitate familiar actions consistently with the toy he or she is playing with, you can begin to focus on expanding your child's play skills by modeling new actions with the toys he or she is playing with. It is important to continue to model interesting actions at or slightly above your child's developmental play level. However, you may begin to increase the complexity of the actions you model. There are several ways to expand your child's play skills.

Increase Variety of Play Schemes with favorite toy

You can help your child increase the variety of play schemes he or she does with a favorite toy. For example, if your child likes to line up blocks (combinatorial play), teach him or her other combinatorial actions to do with the blocks, such as stack the blocks or put blocks in different containers. If your child likes to fill the car with gas (symbolic play), teach him or her other symbolic actions to do with the car, such as to wash the car, dry the car, repair the car, or drive the car home and park the car.

Encourage Play with New Toys

You can help your child to play with new toys by incorporating new objects into play with his or her favorite toys. For example, if your child likes to play with a train, teach him or her to play with farm animals by having them ride the train or by having the train go to the farm.

Expand Number of Play Sequences

You can help your child to expand the number of play sequences your child does with toys. For example, if he or she likes to feed the baby, teach your child to expand the feeding sequence by giving the baby a bottle, burping the baby, and putting the baby to bed. Try to use sequences with which your child is familiar.

Increase Play Complexity

You can help your child increase the complexity of his or her play with his favorite toys. This means increasing the developmental level at which your child plays. Teach play behaviors that are slightly above how your child now plays on his or her own. For example, if your child usually plays with toys by touching, banging, or dropping them (exploratory play), teach him or her to play by putting his favorite toys in and out of containers (combinatorial play). If he usually plays by pushing a car (functional play), teach him or her to wash the car before he pushes it (symbolic play). If your child pretends to feed him or herself pretend food (self-directed pretend play), teach him or her to feed the baby (other-directed pretend play), or to pretend that a block is food and pretend to eat it (symbolic play).

<i>Child's Current Play Level</i>	<i>More Complex Response</i>
Exploratory (<i>holding, mouthing, banging</i>)	Cause & effect (<i>mechanical toys, bubbles, balloons</i>)
Cause & effect	Combining objects (<i>stacking, sorting, nesting</i>)
Combining objects	Functional play (<i>push car, throw ball, playdoh</i>)
Functional play	Simple pretend play (<i>man in car, feed baby, talk on phone</i>)
Simple pretend play	Complex & multi-step pretend (<i>birthday party, doctor's office</i>)

Model Actions with Different Toys

Once your child is consistently imitating a range of actions, both familiar and novel, you want to increase his or her ability to imitate with toys that your child is not currently attending to. When doing this, it is a good idea to start by modeling highly motivating or familiar actions with a different toy from the one your child is playing with. By using motivating or familiar actions, you increase the likelihood that your child will disengage from his or her current toy and shift focus to the toy you are playing with. Before modeling an action with a different toy, make sure that the duplicate toy is in front of your child so that he or she can easily find it. No more than half of the actions you model should be with a different toy. Once your child is able to shift to a new toy, you may begin to model less motivating and/or novel actions.

Play Ideas

To improve your child's play, you first need to think of different ways to play with your child's toys. This can often be difficult for adults. It can help to take time to do this when you are not interacting with your child. Suggestions for brainstorming include: identify actions that can be done with the toys, identify other toys or objects that can be brought into play, or identify emotions that can be brought into play. With a car and a car ramp, for example, ideas might include: pushing the car up and down, taking people in and out of the car, washing the car, drying the car, getting gas, driving to a location such as a park, or crashing and needing repairs. Again, the type of play you model depends on your child's ability.

Teach Gesture Imitation

Once your child is consistently imitating actions with objects (roughly 50% of the actions modeled), you can begin to teach gesture imitation. Gesture imitation is taught using the same strategies as object imitation; however, instead of modeling an action with a toy, you will model a gesture that is directly related to the toy your child is playing with. For example, if your child is playing with toy food, you can model *patting your tummy* to indicate that the food tastes good. Like object imitation, you should pair the modeled gesture with a related verbal label (“Yummy”). Make sure to model gestures that you can physically guide your child to complete if he or she does not imitate spontaneously.

The gestures that you model can include conventional gestures (waving bye-bye, blowing a kiss, nodding yes or no), joint attention gestures which involve an object (pointing to express interest, giving, showing), descriptive gestures (holding arms out for “big”, fingers close together for “small”), and pantomime gestures (pantomiming “drinking”). If your child is not playing with a toy, you can model an action with an object and then a related gesture. When doing this, only prompt your child to imitate the gesture. You can also model gross motor movements such as jumping, turning around, and falling down. However, make sure these are actions that you can physically guide your child to imitate!

Gesture Ideas

Easier gestures are those that are more commonly used and require less fine motor skills. Again, it often helps to brainstorming different gestures you can model when you are not playing with your child. Below are some examples of gestures that can be modeled with different types of play.

	Gestures	Words	Toys
Actions	spinning finger in circles	It’s spinning/ it spins	spinning top
	palm face down, moving up and down as if bouncing a ball	It’s bouncing	bouncing ball
	fling arms up and out	It crashed	toy car/ train crashes
	both palms pushing out from body	She’s pushing	miniature doll pushing stroller
	hand move quickly down through air as if on a slide	It’s a slide/ He went down (the slide)	miniature slide and toy
Attributes	finger tips open and close	It’s sticky	sticky ball
	hands moving up and out as if putting a necklace on the child	She put the necklace on	doll and necklace
	hands moving apart, either horizontally or vertically	It’s so big/ It’s so tall	large toy
	hand rubbing stomach	Yummy food	doll/ bear and pretend food
	jerking action with hand	It’s hot/ sharp	toy w/ imagined attributes of hot or sharp (toy scissors, toy stove)

Pantomime	arms out as if flying	it's a plane/ it's flying/ it flies	airplane
	bent arms moving forwards and backwards at sides as if train wheels	chugga-chugga	train
	open up close palms	it's a book/ let's read	book
	strumming a guitar/ banging drum/ playing recorder	she's playing the guitar/ drum/ recorder	toy guitar' drum/ recorder and doll
	open and close wiggling fingers	it's going to get you	creepy-crawly toy
Affective	fists rubbing eyes	she's hurt	miniature person who fell
	hands pressed together by face as if sleeping	baby's tired	baby and blanket
	hands on hips	I'm angry	a toy that it would make sense to be angry with!
	hands hiding eyes	that's scary	a scary toy
	arms wrapped around self	they're friends	two toys that can hug
Conventional	finger to lip	shhhh! baby's sleeping	baby and blanket
	wagging finger as if scolding	no-no, naughty shark (in response to shark biting)	toy shark w/ open mouth
	shoulder shrug with open palms up	where is it	any toy
	clap hands	good job	any toy
	cup hand around ear	what's that noise?/ hear that?	noise-making toy

Teaching Imitation During Daily Routines

RIT was designed to be used in 1-hour sessions several days per week. However, it is likely that it is also effective when implemented for shorter periods of time during your child's daily routines. By adding a little bit of extra time to your daily routines, you can create a number of learning opportunities for your child without having to significantly alter your daily schedule. Teaching within daily routines and activities is also helpful because it allows your child to learn new skills throughout the day within activities that are meaningful to him or her.

The Daily Activity Schedule can help you identify the best care-giving routines to teach within. On the follow page, write down the daily routines that you use with your child. Include when they typically occur and how long they typically last. Then write a brief description of what the routine looks like. For example, "At wake up, I go into my child's room and turn on the lights. I get in bed with my child and rub his back until he wakes up. Then, I get him up and bring him to the living room." You will notice just how much time you already devote to interacting with your child during the day. Then, think about ways in which you can use RIT strategies during the routines that your child enjoys. The following are some suggestions of ways to use the strategies of RIT during several daily routines.

Story

When reading or looking at a book with your child, take turns imitating your child and encouraging your child to imitate you act out or interact with the characters on the page. For example, if there is a picture of a bird, model pretending to be a bird (flap your arms like wings, "Chirp, chirp"). If there is a picture of food, pretend to eat it off the page ("Yum, yum!").

Meal Time

Try imitating your child during snack. Place the food in your mouth at the same rate as your child. Provide a description of how the food tastes. Encourage him or her imitate you pretending to feed a toy puppet or person.

If your child enjoys cooking have him become part of the process. For example, have your child imitate you pour the ingredients in, mix the ingredients, or measure the ingredients.

Bath time

If your child enjoys baths, imitate his actions in the bathtub. If he splashes the water, splash the water with him. Imitate his play with water toys, such as water wheels, cups or other containers, strainers, rubber toys that float, wind up tub toys, bath crayons, scrubbers, or bubble bath. Then encourage him to imitate new ways to play with the toys. For example, if your child likes to pour water have him imitate you pouring water over a toy person or object and pretend to wash the object.

Gross motor play

Imitate your child's vocalizations, gestures, and body movements as he or she moves through your home or yard. Exaggerate the fact that you are imitating him. Then encourage him to imitate you as you spin around, fall down, jump, or dance.

Activity	Time of Day	Length of time	Brief Description	RIT Strategies to Use
<i>Wake up</i>				
<i>Meal time</i>				
<i>Fine motor (e.g., toy play, art)</i>				
<i>Gross motor (e.g., chase, outside play)</i>				
<i>Songs/Social games</i>				
<i>Story</i>				
<i>Bathing</i>				
<i>Bedtime</i>				
<i>Other (e.g., computer, video, play with siblings)</i>				

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