

# Evidence -Based consulting

From the desk of the Tumbleweed consultant

Valentine's Day 2011 is almost here. Not only does this holiday provide us with the excuse to eat more chocolate, it also provides an even greater excuse to amp up social skills interventions in the classroom! For most elementary school students, Valentine's Day is a relatively pleasant event. Flash forward a few years and the "holiday of love" becomes a potential mine field to those who have difficulty interpreting the complex world of peer relationships. Skills necessary for social interaction develop in layers from infancy through adulthood. In the past, social instruction was often generated by adults. Recent research has taught us, that effective programming includes a strong component of teaching social skills in the environments and with the people that they would naturally occur. Not in isolation.

The National Professional Development Center on Autism Spectrum Disorders recognizes Peer-mediated Instruction and Intervention (PMII) as an evidence based practice. Peer-mediated instruction is used to teach typically developing peers ways to interact with and help learners with ASD acquire new social skills by increasing social opportunities within natural environments. (English et al., 1997; Odom et al., 1999; Strain & Odom, 1986).

Go to their website at <a href="http://autismpdc.fpg.unc.edu/content/peer-mediated-instruction-and-intervention">http://autismpdc.fpg.unc.edu/content/peer-mediated-instruction-and-intervention</a> to view an overview, evidence base, step by step instructions, implementation checklist and data collection forms for peer-mediated instruction and intervention.. OCALI also has a free **Autism Internet Module** dedicated to peer-mediated instruction and intervention at <a href="http://www.autisminternetmodules.org">http://www.autisminternetmodules.org</a>.

I have included the step by step instructions for PMII as this month's article on evidence based practices in autism. Steps for early childhood through high school are included. Don't forget to go to the website for the complete information, if you are interested in trying this approach!

Stay warm, safe and have a happy Valentine's Day!

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# Module: Peer-Mediated Instruction and Intervention (PMII)

# Steps for Implementation: PMII for Early Childhood

Neitzel, J. (2008). Steps for implementation: PMII for early childhood. Chapel Hill, NC: The National Professional Development Center on ASD, Frank Porter Graham Child Development Institute, The University of North Carolina.

PMII for early childhood includes the following steps.

### Step 1. Selecting Peers

The first step in implementing peer initiation training is to select the peer or peers who will be involved in the interactions with the focal child. Selected peers should:

- exhibit good social skills, language, and age-appropriate play skills;
- be well-liked by other peers;
- have a positive social interaction history with the focal child;
- be generally compliant with adult directives;
- · attend to an interesting task or activity for 10 minutes;
- be willing to participate; and
- attend school on a regular basis (Strain & Odom, 1986; Sasso et al., 1998).

### Step 2. Training and Supporting Peers

Peer training typically takes place in a quiet area of the classroom where all of the needed materials are organized and close at hand and involves a series of phases. *The first phase* (Step 2a) of the training process is to teach the pre-selected peers to recognize and appreciate individual differences. For example, practitioners talk to peers about similarities and differences (e.g., how we are the same and different in appearance, likes/dislikes, needs, abilities) and explain how we often learn from each other in the classroom (e.g., games, songs, movements). During this initial phase, peers also are given a brief overview of the similarities and differences of children with ASD. This discussion will vary in content based upon the ages of the peers. For instance, in preschool the discussion will be very concrete and will focus on observable behaviors (e.g., "Taylor needs help learning how to play with other kids, so we are going to teach him how."). For school-age children, more detail about the specific characteristics of children with ASD can be given; however, the discussion should continue to focus on providing examples and observable behaviors.

The second phase (Step 2b) focuses on training and supporting peers by introducing specific strategies one at a time and then practicing them with the adult trainer. Peers are taught to take part in the intervention during daily training sessions and may require four or five sessions to reliably learn the initiation strategies (Strain & Odom, 1986). Peers learn specific behaviors that are used to facilitate play and social interaction during learning activities. These behaviors include:

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- organizing play (making suggestions for play activity, role, or other play for peers);
- sharing (offering, giving, or accepting a play material to/from focal child);
- providing assistance (helping focal child to complete a task, get on play equipment, or respond to requests for assistance); and
- providing affection and praise through hugging, putting arms around, patting, holding hands, shaking hands (Odom et al., 1993; Strain & Odom, 1986).

After the teachers describe the skills, they demonstrate the skill in a role play with one of the peers. Other peers watch and identify when the teacher uses the skill in the demonstration. The adult then has the child use the skill in a role play with one of the other peers in the group. Prompts or suggestions are provided to the peers as necessary. Adults also provide subtle reinforcements (e.g., pats on the back, thumbs up) during the practice session to encourage the peers' use of the strategies. At the end of the practice session, adults provide more explicit reinforcement and feedback (e.g., "I liked the way you handed me the block to put on the tower you were building") so that children are motivated to continue participation (Timler, Vogler-Elias, & McGill, 2007).

### Step 3. Peer and Focal Child Interaction in a Structured Play Setting

In the initial training sessions, only peers are included. To help peers practice skills further, they then participate in structured play sessions with the focal child. In daily play sessions that last approximately five to eight minutes, the teacher introduces the play activity, provides prompts to the peer, and reinforces behavior as necessary. At the conclusion of the activity, children can then go on to another setting or remain in the activity if they wish. Once peers have become proficient, teachers implement daily activities with the focal child and peers with reduced prompting and reinforcement.

### Step 4. Implementing in Classroom Settings

When planning and implementing peer-mediated interactions within classrooms, several factors should be addressed to promote the success of the activities: (1) classroom arrangement, (2) material selection, (3) identification of responsible staff, and (4) the use of prompts and reinforcement.

Classroom arrangement. Peer-initiated learning activities should be a part of the daily schedule and should take place at approximately the same time each day in a relatively quiet area of the classroom that is free from distractions. At least 15 minutes should be allowed for each play session, including the transition to and from the activity. Play activities should not take place during preferred activities such as outdoor play that could interfere with the peers' motivation to participate. Having a consistent time and place for these activities will help children with ASD transition to the activity more smoothly and will increase the likelihood that social interactions will occur because they will know what is expected of them. As children become more proficient and as interactions become more naturalistic, peer-initiation strategies can take place in al classroom routines and activities, both planned and spontaneous.

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Material selection. One way to increase peer interactions and social engagement is to limit the play materials to items that (1) contain a specific theme for each play session (e.g., blocks, prop box), (2) include an element of sociodramatic play, (3) may require assistance in operating, and (4) are not normally available in the classroom. Specific activities and materials that promote social interaction between peers and children with ASD include the following:

- sand table,
- birthday party prop box,
- doll house and people,
- building a road with cars and trucks,
- car garage,
- doctor,
- · farm animals and blocks.
- grocery store,
- play-doh,
- · puppet show,
- puzzles, and
- zoo animals (Odom et al., 1993).

These types of activities encourage sharing, exchanging of materials, and other social behaviors that children with ASD often need to develop.

Identification of responsible staff. During the play sessions, one staff member in the classroom should be consistently responsible for running and supervising play. This adult will (1) train peers, (2) implement the learning activities, and (3) observe child progress.

Use of prompts and reinforcement. The use of prompts and reinforcement is essential to the success of peer initiation training. When prompting social exchanges, practitioners should use the following guidelines:

- Observe children to identify non-interaction.
   When there has been no interaction between the focal child and peers for 30 seconds, a prompt should be provided.
- Provide a prompt to the peer or the focal child to begin an interaction or respond to an initiation.

Prompting often involves cueing the peers to use the strategies through the use of explicit instructions (e.g., suggest a game to play, "Try talking about Taylor's animals"), more subtle verbal instructions (e.g., "It's your turn to talk," "Try again"), picture cues (e.g., a drawing of two children talking), or gestures such as signaling the peer to move closer to the focal child (Goldstein, Schneider, & Thiemann, 2007). If the child does not respond to the prompt within 10 seconds, repeat the prompt again and provide physical guidance (Ostrosky et al., 1990).

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As peers become more proficient at engaging children with ASD in play, practitioners can withdraw their use of prompts and reinforcement. If the peers and focal children are engaging in relatively few social interactions, practitioners should temporarily increase the use of prompting and reinforcement to ensure that social interactions are occurring with a high level of frequency. Gradual withdrawal of prompts and reinforcement will allow practitioners to periodically assess the progress of individual children.

### Step 5. Extending Initiations Across the Day

The final phase of the implementation process is to extend initiations across the day so that the focal children can begin to generalize skills. This can be accomplished through the use of two strategies: (1) embedded intervention and (2) class wide peer buddy system.

With an embedded intervention approach, instruction is provided within child-initiated, naturalistic, and contextualized interactions. For example, a teacher might seat a trained peer next to the focal child during a small group art activity with a limited number of materials to promote social interactions. The peer could be prompted to ask the child with ASD to pass the paint or assist the child in gluing. Practitioners should plan to include peer initiation strategies within at least three classroom routines and activities per day. The use of an activity matrix may help practitioners organize the activities and provides a structure for making sure that the learning opportunities occur.

Child Activity Matrix

needs. Baltimore: Brookes.

Activity	Target Skills			
	Ask to play	Exchange materials	Greet peer	Request item
Arrival	e e e e e e e e e e e e e e e e e e e		Say "hi" to peer	
Free play	Say "Play, please" to peer when entering an activity	Take toy from peer when offered a turn	Say "hi" to peer when entering an activity	Say "Turn, please" to peer
Snack	•	Take juice pitcher from peer when offered	Say "hi" to peer when sitting down for snack	Say "Juice/snack, please"
Small		Painting with cars -	Say "Hi" to peer	Painting with cars – Say
group activities		take car from peer	when sitting down to paint with cars	"Car/turn, please"
Outside	Say "Play, please" in sandbox	Take shovel from peer in sandbox	Say "hi" to peer when going to play in the sandbox	Say "Shovel/bucket, please" in sandbox
Large group time		Take instrument basket from peer during music time		Say "Turn, please" to peer at music time to request instrument basket
Departure			Say "Bye" to peer	
Adapted from	Sandall, S. R.	& Schwartz, I. S. (2002).	Building blocks for teach	ning preschoolers with special

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A class-wide peer buddy system also can be used to increase the number of peers who interact with the focal child. With this approach, children in the class have different play partners each day. A chart can be created that displays pairs of children's names printed on individual cards. Each day, the cards are systematically rotated so that each child has the opportunity to buddy with a different peer. At "buddy time," children check the chart and find their name as well as the name of their buddy. During free play, children play with their buddies. Teachers prompt interactions as needed during this time. Prior to "buddy time," peers are taught the following skills:

- Stay with your buddy. Peers learn that they must stay with their buddy in the same area, playing and taking turns. However, they do not need to continually play with the same toys.
- Play with your buddy. Peers are taught to stay in the same area with their buddy and
  play with the same materials by joining in their buddy's activity, offering toys, and asking
  their buddy if they would like to play.
- Talk to your buddy. Peers are taught to (1) talk to their buddy about what they are
  playing with, (2) play pretend games, and (3) talk to each other while engaging in
  pretend play activities.

To increase motivation to participate, peers are told that if they stay with their buddy, play together, and talk to one another, they will be able to put their name in a box. Every day, a pair of names is pulled out of the box. The selected pair receives a special treat (e.g., candy, sticker, treasure, prize). This reinforcement strategy is withdrawn as children become more proficient at staying with their buddies (English, Goldstein, & Shafer, 1997; Laushey & Heflin, 2000).

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# Steps for Implementation: PMII for Elementary, Middle, and High School

Neitzel, J. (2008). Steps for implementation: PMII for elementary, middle, and high school. Chapel Hill, NC: The National Professional Development Center on Autism Spectrum Disorders, Frank Porter Graham Child Development Institute, The University of North Carolina.

PMII for learners in elementary, middle, and high school includes the following steps.

### Step 1. Selecting Peers

The first step in implementing peer social networks is to initially select peers who will provide social support to the focal student. Selected peers should:

- exhibit good social skills, language, and be well-liked by peers;
- · have similar schedules or academic groupings as the focal child; and
- express a willingness to participate.

Teachers also should obtain parent permission, particularly if organized social events take place after school. At least six peers should be selected by teachers to participate so that peer/focal student dyads can be rotated. Teachers should plan to include one to two peers in the peer social network activities for a minimum of three to four months to promote acquisition of skills. After this time period, additional peers can be included to promote generalization of skills (Carter & Kennedy, 2006; Thiemann, 2007; Utley, Mortweet, & Greenwood, 1997).

### Step 2. Training Peers

The specific content of the peer training sessions will vary according to the age of the students. The specific activities for training elementary, middle school, and high school students are provided below.

Elementary school. The initial training sessions with elementary school students should take place in an area of the classroom that is quiet and free from distraction. During the training sessions, peers learn specific behaviors that are used to facilitate social interactions during structured activities. They include the following:

- initiating interactions.
- responding to initiations,
- keeping an interaction going,
- starting and engaging in conversations (e.g., greetings, topics),
- giving and accepting compliments,
- taking turns and sharing.

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- helping others and asking for help, and
- including others in activities (Kamps et al., 1992; Thiemann, 2007; Thiemann & Goldstein, 2001).

Appreciating individual differences. At the beginning of the training session, the adult trainer teaches the pre-selected peers to recognize and appreciate individual differences. For example, teachers engage the peers in a brief discussion about individual differences and similarities that exist between peers and the focal student. At this time, the teacher also provides descriptions of the focal students including their level of communication, likes, and dislikes.

Identifying preferred activities of focal student. Teachers then engage peers in a discussion about the specific games and activities that the focal student enjoys. Preferred activities will most likely become the activities in which peer support will be provided. Teachers can use a dry-erase board or chart paper to record a list of these preferred activities as well as the possible social interactions that could occur between the peers and the focal student.

Generating scripts for interactions with focal student. Teachers should encourage peers to generate words or phrases that they can say during these preferred activities that match the target skills (responding to peers, maintaining conversations and interactions with peers, initiating interactions) for focal students. These phrases are written on a skill sheet with a label of the target skill at the top, and a picture of two students with topic bubbles. The phrases or words are written in the topic bubbles. A list of prompts and models that might be necessary to promote social interactions also can be generated by teachers and peers at this time (Sasso et al., 1998). The target skill sheets can be placed in the activity area to provide a "script" for the interaction and provides peers and the focal student with information about what to do, what to say, and how to respond. Scripts can be particularly helpful with school-aged students because they help them organize social information while also providing continuous access to ideas, comments, and questions related to the activity.

After the initial brainstorming session, peers are taught to "look, wait, and listen." This approach allows the focal student time to initiate and/or respond to a peer. The teacher then role plays with a peer to provide an example of how to use the skill in an activity. Peers also have the opportunity to role play with one another to further practice the use of the target skill. Following each role play, the teacher provides feedback and reinforcement for participating in the activity (Garrison-Harrell, Kamps, & Kravits, 1997; Haring & Breen, 1992; Pierce & Schreibman, 1995; Thiemann, 2007).

Middle and high school. Because middle and high school students do not remain in one classroom for the entire day and they often have different teachers for specific subjects, a special educator may be the most appropriate person to implement the peer support network interventions. Training middle and high school students involves less direct instruction by the special educator and more active participation in the development of peer network interventions. During initial training sessions, peers are provided with (1) the goals for this intervention and the rationale for their involvement in the intervention activities (to help focal student respond to peers, maintain conversations and interactions with peers, and initiate interactions with peers); (2) an overview of what is expected of them during their interactions with the focal student; and

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(3) information about how students with ASD communicate, interact with their environment, and learn (Carter & Kennedy, 2006). The special educator also may provide descriptions of the focal student's likes and dislikes.

Next, special educators describe basic strategies peers can use to support the focal student during social interactions. These strategies include:

- providing frequent, positive feedback;
- · modeling contextually relevant communication skills; and
- facilitating interactions with other peers (Carter & Kennedy, 2006).

Special educators should model the use of these strategies with peers at this time. Peers also can role play with one another to practice skills.

At the conclusion of the activity, the special educator and peers discuss when and where the focal student may need support from peers to engage in social exchanges with others. For instance, peers write down their daily class schedules and match them with the focal student's schedule. A schedule of interactions then is developed based upon the times the focal student needs additional support and when one of the peers is available to provide this support. The special educator and peers also identify methods for prompting and reinforcing the focal student's social interactions. Peers then are provided with a notebook that they will use to record anecdotal information following each intervention activity. The information that peers include in their notebooks will be used during weekly meetings to problem-solve how to further support the focal student as well as ways in which the intervention can be improved. The initial training may occur over two to four class periods, depending on the support needs of the focal student as well as the school activities that will serve as the context for implementing the interventions (Carter & Kennedy, 2006; Haring & Breen, 1992).

### Step 3. Supporting Peers

Another important step in the implementation process is to provide ongoing support and feedback to peers. Similar to the training component of the intervention, follow-up support for peers will vary according to the age of the students. The following discussion describes how teachers and other professionals can support peers at different ages.

Elementary school. After the initial training sessions, specific strategies (providing frequent, positive feedback; modeling contextually relevant communication skills; and facilitating interactions with other peers) that can be used to support the focal student during social interactions are modeled during a planned activity involving peers and the focal student. Teachers also make any individualized curricular and instructional adaptations that are needed for the focal student to participate fully. For example, the teacher may provide the focal student with a "script" that was developed by peers prior to the intervention activity. As peers become more proficient at supporting the focal student during daily activities, teachers decrease their level of involvement. This allows peers to assume the primary role of providing social support to the focal student (e.g., clarifying instructions, offering choices, supporting participation at lunch

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or recess). Peers may continue to need occasional prompting, however, to interact with the focal student during peer social network activities (Carter & Hughes, 2007).

Middle and high school. Weekly problem-solving meetings are the primary ways in which special educators provide ongoing support and feedback to peers. Classroom teachers also may be included if the peer support interventions are being implemented during their class period. The purpose of these activities is to encourage peer involvement and input as well as minimize the special educator's role in the scheduling and identification of interaction strategies. Special educators conduct the sessions; however, peers are actively involved through open discussion, problem-solving, and sharing of anecdotal information from their notebooks (Carter & Hughes, 2007). A standard format is recommended to help organize each session and includes the following:

- assess the previous week's interactions through an open discussion among the special educator, teachers, and peers;
- modify the interaction schedule as needed by peer written and spoken feedback;
- identify target skills for focal student that will be addressed;
- discuss strategies that can be used by peers to facilitate social interactions between focal student and peers;
- role play or model strategies as needed;
- assess informally the satisfaction of peers regarding the network meetings and responsibilities; and
- reinforce peers' participation through verbal praise, letters home, and occasional group social activities such as having pizza for lunch (Haring & Breen, 1992).

#### Step 4. Implementing in Classroom Settings and Throughout the Day

When planning and implementing peer-mediated interactions with older children and adolescents, several factors should be addressed to promote the success of peer social networks. They include the following:

- creating a supportive social environment,
- providing classroom learning opportunities,
- monitoring social interactions, and
- using prompts and reinforcement.

Supportive social environment. When implementing a peer social network approach in classrooms, teachers and other practitioners should focus on creating a social environment that supports peer to peer interactions. For example, teachers should keep peer social groups small (e.g., one to two peers), but continually rotate the peers included in the activities to promote generalization of skills. Seating trained peers next to the focal student during whole-class and small group activities increases the likelihood that interactions with peers will occur.

Learning opportunities. Peer social networking activities can occur throughout the school day; however, some activities are more likely to support positive social interactions than others. For

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example, ongoing classroom activities that are particularly conducive to supporting social interactions include the following:

- small academic groups such as math and reading;
- class centers such as calendar and money activities, computers, puzzles;
- special areas such as physical education and library;
- · card games such as memory and matching games, Go Fish, Uno; and
- board games such as Trouble, Kerplunk, and Don't Break the Ice (Kamps et al., 1997; Thiemann, 2007).

Lunch also is an appropriate time to incorporate peer social networks. However, specific materials and supports must be provided to the focal student and peers in order to successfully facilitate interactions. For example, peers can help teachers generate topic cards that they can use to start conversations with the focal student. Topics should be age-appropriate and focused on the interests of the focal student to promote optimal interactions. Other materials that can be used during lunch time to increase peer social interactions include the following:

- open-ended topic starters,
- funny photos or pictures,
- magazines,
- restaurant guides.
- photos taken by peers to use as topic starters, and
- school subject/events topic cards (Thiemann, 2007).

Peer social networks also can be used to promote social interactions at recess. Activities such as four square, basketball, Monkey in the Middle, Frisbee, and map games are very appropriate activities for supporting peer interactions.

Monitoring social interactions. As peers assume the responsibility of providing ongoing support to the focal student, teachers should frequently monitor interactions and provide periodic feedback and assistance. This support will ensure that the adaptations, assistance, and interactions taking place are appropriate and relevant for the focal student. Feedback should be provided to peers at the end of each activity, class period, or during weekly problem-solving meetings.

Use of prompts and reinforcement. The use of prompts and reinforcement is integral to the success of peer social networks and promotes sustainable social interactions across time. With the peer social network approach, prompting and reinforcement are primarily provided by peers to the student with ASD. As such, teachers must focus on teaching peers how and when to deliver specific prompts and reinforcement to the focal student when they are needed. For example, teachers instruct peers to observe focal students during an activity and provide the necessary prompts if they do not interact with a peer or respond to another student's social initiations.

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During peer social network activities, prompting may involve cueing the focal student with general verbal prompts while pointing to a written-text or picture cue (e.g., "Mary, what can you say?"). Written-text and picture cue cards prompt social behavior by displaying pictures of students interacting through the use of controlled, short phrases written at the focal student's reading and vocabulary level. The cue cards are functional, age-appropriate, and directly related to target skill for each activity. These prompts are particularly useful with this age group because they are portable and are available to peers throughout the activity.

As the focal student is better able to interact with others, teachers direct peers to withdraw their use of prompts. This withdrawal of prompts is done under the direct supervision of the teacher or special educator. If the focal student is engaging in relatively few social interactions, practitioners should instruct peers to temporarily increase the use of prompting and reinforcement to ensure that social interactions are occurring with a high level of frequency. Gradual withdrawal of prompts and reinforcement will allow practitioners to periodically assess the progress of individual children.

### Step 5. Extending Initiations across the Day

The final phase of the implementation process is to extend peer social networks across the day so that students with ASD can begin to generalize skills. Teachers should focus on extending peer social network activities across the day in activities that

- · occur in natural settings (e.g., recess, lunch, centers, games),
- · occur in a minimum of two to three different routines each day,
- contain a choice of two activities during each session (both peers and the learners with ASD should be given opportunities to choose an activity each day),
- use five to eight games rotated every three to four months to promote generalization.
- keep the same group of four to six trained peers to promote interpersonal connections and friendships,
- are social in nature, and
- last a minimum of 10 minutes (Kamps et al., 1997; Thiemann, 2007).

The sample activity planning form helps teachers and special educators organize the focal student's daily schedule and identifies where additional support is needed by the student to engage in social interactions with peers.