Teacher Training In Using Effective Strategies For Preschool Children With Disabilities In Inclusive Classrooms

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ABSTRACT

Research has shown that inclusion benefits children with disabilities and typical developing peers. Children with disabilities enrolled in inclusive settings were found to achieve better developmental outcomes than children with similar abilities enrolled in traditional special education settings (Hundert, Mahoney, Mundy, & Vernon, 1998), higher scores in language development, social, and academic skills (Downing & Peckham-Harding, 2007; Rafferty, Piscitelli, Boettcher, 2003), improved behavioral outcomes (Lee & Odom, 1996), development of friendships and social networks (Fryxell & Kennedy, 1995; Hall & McGregor, 2000), and happiness behaviors (Ryndak, Morrison, & Sommerstein, 1999). Studies also suggested that inclusion benefits typically developing children (Bentley, 2007; Cross, Traub, Hutter-Pishgahi, and Shelton, 2004; Guralnick, 1990; Mclean & Hanline, 1990; Peck, Staub, Gallucci, & Schwartz, 2004). The most commonly mentioned advantages include character development of typically developing children into more accepting, tolerant, and sympathetic individuals. While assisting their peers with disabilities, they also pick up additional skills such as sign language or assistive technology (Downing & Peckham-Harding, 2007). Moreover, Bentley (2007) observed through interviews with typical peers, that they find a teacher and role model in their friend with disabilities. As our field continues to make significant progresses in legislation (e.g., Individuals with Disabilities Education Improvement Act, 2004, 2007) as well as evidence-based practices to serve diverse learners, inclusion for children with disabilities remains a challenge in the classroom practices. Many classroom teachers felt inadequate in teaching children with disabilities (Leyser & Kirk, 2004). However, once teachers experienced successful inclusion with children with disabilities, they became stronger advocate themselves in supporting the merit and practices of inclusion (Cross et al., 2004). The key to making inclusion successful is the availability of effective inclusion strategies and teacher training. More successful inclusion stories and experiences will then attract more teachers to include children with moderate to severe disabilities in their classrooms. There is a need to bridge the gap between research and practice by investigating the extent to which practitioners view strategies supported by research as useful and relevant in their classroom practice. In this survey study, 26 early childhood/early childhood special education practitioners shared their views on a list of peer-mediated strategies in serving children with disabilities in the general education classrooms. By investigating educators' views on these naturalistic peer-mediated strategies derived from several research projects (Schepis, Reid, Ownbey, & Clary, 2003; Thompson et al., 1993; Yang, 2000), this study was designed to obtain practitioners' input on the practicality and observed usage of strategies in the classroom practices. Research-based strategies supported by educators' feedback will also be shared in this paper.

Keywords: Teacher Preparation; Inclusion Strategies; Evidence Based Practices

INTRODUCTION AND LITERATURE REVIEW

In defining high quality educational programs for students with moderate to severe disabilities, parents, educators, and paraprofessionals strongly support inclusion with typically developing peers as one important quality indicator for such programs (Downing & Peckham-Hardin, 2007). A number of benefits derived from including children with severe disabilities in general education classrooms have been supported by research (Brinker & Thorpe, 1984; Hanline, Fox, & Phelps, 1998). Children with severe disabilities enrolled in inclusive settings were found to achieve better developmental outcomes than children with similar

abilities enrolled in traditional special education settings (Hundert, Mahoney, Mundy, & Vernon, 1998), higher scores in language development, social, and academic skills (Downing & Peckham-Harding, 2007; Rafferty, Piscitelli, Boettcher, 2003), improved behavioral outcomes (Lee & Odom, 1996), development of friendships and social networks (Fryxell & Kennedy, 1995; Hall & McGregor, 2000), and happiness behaviors (Ryndak, Morrison, & Sommerstein, 1999). Being with typical peers provides children with severe disabilities role models for age-appropriate behaviors, conversation partners, and motivation for communication. It also provides peer support for children with severe disabilities (Bricker, 2000; Downing & Peckham-Hardin, 2007). Studies also suggest that inclusion benefits typically developing children (Bentley, 2007; Cross, Traub, Hutter-Pishgahi, and Shelton, 2004; Guralnick, 1990; Mclean & Hanline, 1990; Peck, Staub, Gallucci, & Schwartz, 2004). The most commonly mentioned advantages include character development of typically developing children into more accepting, tolerant, and sympathetic individuals. While assisting their peers with disabilities, they also pick up additional skills such as sign language or assistive technology (Downing & Peckham-Harding, 2007). Moreover, Bentley (2007) observed through interviews with typical peers, that they find a teacher and role model in their friend with severe disabilities.

Despite the strong advocacy for including children with moderate to severe disabilities in the general education classrooms, challenges remain in making inclusion successful for this group of children. Research has shown that program personnel are less likely to place young children with severe disabilities in inclusive settings than children with mild disabilities (Bentley, 2007; Odom, 2000; Rafferty et al., 2003). Children with severe disabilities who were already placed in general education classrooms need more than simply being physically around typical developing peers. Research has shown that children with moderate to severe disabilities were socially excluded and less socially integrated than children with mild disabilities (Cook & Semmel, 1999; Hall & McGregor, 2000; Klutz, Biklen, English-Sand, & Smuckler, 2007; McLeskey, Henry, & Hodges, 1999; Wehmeyer, 2006, Wolfberg et al., 1999). Thus the Individual with Disabilities Education Improvement Act (2004) further emphasized access to the general education curriculum for children with disabilities. It asserted that inclusion should be practiced in curriculum, instruction, and social interactions. Though many general educators support the concept and merit of inclusion, they did emphasize that additional training and strategies are necessary to make inclusion work (Rheams & Bain, 2005). Many classroom teachers feel inadequate in teaching children with disabilities (Leyser & Kirk, 2004). However, once teachers have experienced successful inclusion with children with severe disabilities, they become stronger advocate themselves in supporting the merit and practices of inclusion (Cross et al., 2004). The key to making inclusion successful is the availability of effective inclusion strategies and teacher training. More successful inclusion stories and experiences will then attract more teachers to include children with moderate to severe disabilities in their classrooms.

Positive social interactions and peer relationships are often viewed as significant benefits of inclusion (Downing & Peckham-Hardin, 2007; Leyser, & Kirk, 2004). For children with severe disabilities, adaptation for socialization, play, and learning is further emphasized as key elements of successful inclusion (Cross et al., 2004). In order to promote social interactions in inclusive settings, Peer Mediated Instruction and Intervention (PMII) is frequently used to promote academic and social outcomes for children with disabilities. PMII employs the help of developmentally typical peers to instruct children with disabilities in gaining important skills (Odom & Strain, 1984). It usually focuses on teaching peers to initiate and respond to the children with disabilities in an appropriate and respectful manner, so that the needs of children with disabilities can be met both academically and socially. Peer-mediated strategies hold two advantages over teacher-mediated strategies. Although teacher-based intervention has been successful, the social exchange that resulted are usually short and brief, as found by Strain, Kerr, and Ragland (as cited in Brown & Odom, 1995). Moreover, without proper timing, teacher intervention may disrupt the flow of play and social exchanges as investigated by Strain and Fox (as cited in Brown & Odom, 1995). Peer support also helps students with disabilities to be more engaged in the classroom (Carter & Kennedy, 2006; Klavina, 2008). Research evidence further suggests that the majority of the interactions with children with profound disabilities were initiated by typically developing peers (Goldstein, Schneider, & Thiemann, 2007; Hanline, 1993). PMII can be incorporated and woven into various everyday activities, making it a viable method to be used in an inclusive setting (Hemmeter, 2000; Robertson, Green, Alper, Schloss, & Kohler, 2003). Therefore, PMII is an accommodating and suitable intervention in serving children with severe to moderate disabilities.

At times, it may be necessary to provide peer training prior to peer intervention. In the training, peers are introduced to the skills that will be worked upon. They are taught different strategies to help their classmates with

disabilities produce more interactions or responses such as asking questions. The peer mediators are also informed of ways to reward communication by praising their friends (Carter & Kennedy, 2006; Chung, et. al., 2007). Goldstein and colleagues' model (2007), in addition, incorporates role playing as practice for the peers, as well as prompts of cue for the trained peers to ensure proper interactions. They can be in the form of direct instruction (e.g. "talk to him about the toy"), indirect (e.g. "one more time"), or visual cues such as pictorial (e.g. pictures of children playing) or gestures (e.g. hinting the child to give a toy; Goldstein et al., 2007). The techniques taught to peer-interventionist may involve (a) making eye-contact to establish joint attention, (b) initiating play (e.g., "let's read a book"), (c) describing their activities during the course of playing, and (d) being aware when their play-mates try to communicate (Goldstein et al., 2007). Interestingly, the researchers found that peer-interventionists were able to tailor their strategies to different children (e.g. making more eye contact with the less responsive children) to gain increased interaction. The peers were also found to have generalized the mediation behavior to other children with autism (Goldstein et al., 2007)

There has been a plethora of research supporting that peer-mediated models promote social interaction or social skills for young children (birth to 8 year of age) with mild to moderate disabilities (Odom et al., 1999; Robertson et al., 2003; Storey & Danko, 1992) and/or autism (Chung et al., 2007; Goldstein, Kaczmarek, Pennington, & Shafer, 1992; Nelson, McDonnell, Johnston, Crompton, & Nelson, 2007; Kohler, Greteman, Raschke, & Highnam, 2007; Odom & Strain, 1986; Sainato, Strain, Lefebvre, & Rapp, 1987; Trembath, Balandin, Togher, & Stancliffe, 2009). However, studies concerned with the implementation of peer-mediated instruction with children with moderate to severe disabilities, particularly those as young as preschooler age, are less reported in the literature. Most studies that were found from our database search on individuals with severe or multiple disabilities and PMII focus on school age, youths, or young adults (Carter, Cushing, Clark, & Kennedy, 2005; Carter, Sisco, Melekoglu, & Kurkowski, 2007; Kaufman & Burden, 2004; Klavina & Block, 2008; Weiner, 2005)

A number of strategies that facilitate the social aspects of inclusion have been developed and implemented in inclusive settings for children with severe and multiple disabilities (Jung, Sainato, & Davis, 2008; Schepis et al., 2003; Siegel-Causey & Bashinsky,1997; Stremel & Schutz, 1995; Thompson et al., 1993; Thousand & Villa, 1990; Yang, 2000). For example, Schepis and colleagues (2003) trained preschool staff to promote cooperative participation between children with severe disabilities and their typical peers in free play context. Several peer-mediated techniques utilized in their training program are similar to the peer mediated strategies introduced in this study, including inviting peers to initiate play interactions with the child with disabilities, providing acknowledgement to peers' for positive interactions, encouraging direct communication and interaction between children with and without disabilities, and fading from children's interactions. These naturalistic tactics and interventions (Bricker & Woods-Cripe, 1992; Kohler, Anthony, Steighner, & Hayson, 2001; Rule, Losardo, Dinnebeil, Kaiser, & Rowland, 1998) are considered ideal in working with young children due to their non-intrusive nature. Unlike many traditional methods, these tactics require teachers to make a range of judgments related to the children's ongoing interest and play, and take advantage of the naturally occurring teachable moments (Philips & Halle, 2004). No additional training with peers is required. Results indicate that their staff training program has increased cooperative participation between preschool children with severe disabilities and typically developing peers. After the training, the increased level of cooperative participation remains even when a staff person was not present. A study with mild to severe children with autism by Jung and colleagues (2008) yielded similar results with the subjects retaining social interactions during maintenance phase, and even generalizing the skills to untrained peers (Jung et al., 2008). Interestingly the retention of skills is not only observed in the children with disabilities. Goldstein and colleagues (2007) found in their investigation that peer interventionists practiced the trained behaviors to other children with autism who were not part of the original target children, when self-evaluation continued to be carried out.

The findings on peer-mediated strategies in promoting social interactions in young children with disabilities seem promising on the whole. However, what are the teachers' opinions of this method? West, Brown, Grego, & Johnson (2007) surveyed 337 early childhood special educators. Most of the respondents viewed social skills interventions and activities as beneficial for preschoolers with disabilities. They believed that the peer-mediated strategies were acceptable, as well as feasible in the classroom. However, the results showed that peer-mediated social interaction strategies had not been sufficiently utilized in the classrooms despite the high acceptability and feasibility scores (West et al., 2007). Similar results are observed at the high school level. The high school educator

respondents indicated that the peer buddy system was one of the top three (out of twelve strategies) most effective strategies that could be used to increase social interaction of students with severe disabilities in general education. Data analysis also showed that the buddy system was implementable in the classrooms, however, it was not fully utilized in the respondents' classrooms (Carter & Pesko, 2008). In sum, there exists a service gap in integrating peer-mediated social interaction strategies in the classrooms.

There are several barriers to putting PMII into practice, as such inadequate teacher training, being short-handed, tight class schedules, and lack of peers who fit the criteria of peer-mediators (West et al., 2007). However, even when children without disabilities are willing to participate, their interest does not endure if the classmates with disabilities do not reciprocate very often. This is usually due to communication deficits (Carter & Maxwell, 1998). This information on barriers might in part explain the existence of the gap in feasibility and practice of PMII. Based on the strategies documented in the literature and observed in classroom practices (Schepis et al., 2003; Thompson et al., 1993; Yang, 2000), 13 naturalistic strategies for facilitating peer social interactions were identified and validated in this study.

Table 1
Definition of 13 Peer-Mediated Strategies

Title of Strategies		Definition and Descriptions
Cluster One	Make Interpretation	Adults interpret the nonverbal responses, vocalizations, sign language, or other non-symbolic communication forms from the child with disabilities in order to infer their communicative intents. Adults then teach peers to interpret these communication forms.
	Prompt for Direct Communication	By directing peer's comments and questions directly to the child with disabilities rather than to adults or other peers, peers learn to treat the child with disability as an equal partner and interact more respectfully with a child with disabilities. By finding more opportunities for peers to interact the child with disabilities directly (e.g., "show him/her that"), teacher ensures that the child with disabilities has better understanding of the activity or a concept.
	Invite Participation	Adults suggest or encourage peers to select a new activity that includes the child with disabilities, or to engage in brief interactions such as greeting, short conversations, or providing assistance during transition when appropriate.
	Follow Through	Adults instruct and then re-instruct to improve the peers' use of the strategy. This attempt is to ensure that the peers interact with the child with disabilities in a respectful and meaningful manner throughout the entire interaction.
	Answer Peers' Questions	Peers' questions regarding the child with disabilities must be answered in an honest, straight-forward, and simple manner at the level young children would understand.
	Prompt for identifying peers/activities	When greeting a child with disabilities (particularly a child with visual impairment), peers are prompted to give their names or/and what work/activities they are planning to do with the child with disabilities.
	Help with Movement	Adults teach peers to help the child with disabilities make movement in order to increase participation of the child with disabilities.
	Provide Acknowledgement	Adults acknowledge peers' positive interaction behavior by giving descriptive praise, or by giving peers verbal or gestural reinforcements (such as shaking hands) on behalf of the child with disabilities.
	Add Information into Conversation	Adults ask peers questions and add meaningful content on behalf of the child with disabilities in order to maintain conversations or interactions that include the child with disabilities.
Cluster Two		
	Environmental Arrangement	Using environmental arrangements to facilitate interactions, such as grouping, seating arrangements and material placements.
	Fade from Interactions	Adults step back physically and fade out of children's interactions in order to allow spontaneous and natural interactions to occur.
	Inform of Physical Assistance	Verbally inform the child with disabilities of any physical assistance before it occurs.
	Provide Sensory Input	Provide the child with disabilities sensory stimulation during the activity, such as different sounds, texture, and lights.

The purposes of this survey study were to investigate (1) to what extent do practitioners (including early childhood special educators, general educators, pre-service teachers, paraprofessionals, and teacher educators) value 13 peer-mediated naturalistic strategies in serving children with moderate to severe disabilities, and (2) to what extent are these strategies used in classrooms as measured by participants' observations of teaching practices. Please refer to Table 1 for the list and definitions of these strategies.

METHODS

Participants and Settings. Surveys were sent to 50 early childhood professionals in a Midwest community in the United States. These participants represented (a) general educators (early childhood educators) working in inclusive classrooms, (b) early childhood special education educators supporting children in inclusive programs, (c) related service providers (e.g., occupational therapists, physical therapists, etc.) providing services in inclusive programs, and (d) pre-service teachers enrolled in early childhood special education graduate programs at the University of Kansas. Twenty-six of the survey participants responded to the survey.

Procedures

Survey development and application. Thirteen peer-mediated strategies are grouped into two clusters on a survey instrument. The first cluster includes 9 peer-mediated strategies that directly promote peer social interactions. Strategies in Cluster One require educators to encourage or respond to peers' actions in order to enhance the quality and frequency of the social interactions. The second cluster includes four strategies that indirectly promote social interactions. Strategies in Cluster Two do not directly encourage peer social interactions. Rather, those tactics are employed to set the stage for naturally occurring interactions and enhance the participation of children with severe disabilities. The strategies in Cluster Two do not involve soliciting or encouraging peers' actions. Two clusters were researched relative to their importance in promoting social interactions.

Demographic information was requested, including their educational background, their roles in working with children with disabilities, and their experiences with children with severe disabilities. A 4-point rating scale was employed. Scale A was designed to determine the perceived usefulness of the strategies in promoting peer social interactions. A rating of 1 represented not useful at all and 4 represented very useful. Scale B was designed to determine the usage of these strategies by participants' observations of teaching practices. A rating of 1 represented never being used and 4 represented being used very often. Scale C was used to determine the 3 most important strategies among 13 peer-mediated strategies. This was partially intended to validate participants' rankings in Scale A.

Survey distribution and collection. The surveys were distributed through teacher networks, public school personnel, and university practicum seminars in the local community. The respondents were able to obtain an electronic copy of the survey through an email attachment and return the survey online, or send their responses to the investigator by traditional mail service. Twenty-six participants responded to the survey.

DATA ANALYSIS

In Scale A and B, the responses were summed up and then an average score was calculated to obtain the mean rating of perceived usefulness and observed frequency for each strategy. Next, based on their mean ratings, each strategy was rearranged in rank order and assigned a rank for usefulness and a rank for frequency of occurrence.

In Scale C, the procedures for determining the three most important strategies involved assigning three points to a strategy receiving a rank of 1, two points for a rank of 2 and one point for a rank of 3. A total score for each strategy was then calculated and strategies were rearranged in rank order with the highest score receiving a rank of 1.

RESULTS

Table 2 reports the survey results and displays: (a) Scale A, the mean ratings and ranks of the perceived usefulness, and (b) Scale B, the mean ratings and ranks of the perceived frequency of occurrence.

Table 2
Summary of Survey Results (N=26)

Strategies to promote social interaction		Usefulness[a]		Frequency of use[b]	
		M	**Rank**	**M**	**Rank**
Cluster I					
	Make interpretation	3.65	3	2.89	7
	Prompt for direct communication	3.61	4	3.23	1.5
	Invite participation	3.42	6.5	3.23	1.5
	Follow through	3.31	8.5	2.81	9
	Answer peer's questions	3.31	8.5	2.85	6
	Prompt for identifying peers/activities	3.27	10.5	2.65	13
	Help with movement	3.27	10.5	2.73	11
	Provide acknowledgement	3.19	12	2.81	9
	Add information to the conversation	2.73	13	2.69	12
Cluster II					
	Environmental arrangement	3.81	1	3.19	3.5
	Fade from interactions	3.73	2	3.12	5
	Inform of physical assistance	3.54	5	3.19	3.5
	Provide sensory input	3.42	6.5	2.81	9

[a] The usefulness rating scale was from 1 to 4 with 1 being the least useful and 4 being the most useful. A rank of 1 was assigned to the most useful.
[b] The frequency of use scale was from 1 to 4 with 1 being the least used and 4 being the most used. A rank of 1 was assigned to the most frequently used.

In Scale A, the two most useful strategies belong to Cluster Two (*Environmental arrangement* and *Fade from interactions*). The strategies that received third and fourth rank belong to Cluster One (*Make interpretation* and *Prompt for direct communication*). The fifth rank belongs to Cluster Two again (*Inform of physical assistance*). Based on Scale A alone, it seems like strategies in Cluster Two were perceived to be very important.

In Scale B, the strategies that were used most frequently are *Prompt for direct communication* and *Invite participation* (Cluster One), and *Environmental arrangement* and *Inform of physical assistance* (Cluster Two). The strategies that were used least often are *Prompt for identifying peers/activities*, *Help with movement*, and *Add information to the conversation*.

Table 3 reports the survey results of Scale C, the total scores and score ranks obtained from the participants' selection of 3 most important strategies among 13 strategies.

Based on Table 3, when compared to one another, the strategies that were perceived as the most useful in order of the usefulness include *Make interpretation*, *Prompt for direct communication*, and *Invite participation*, which belong to Cluster One. The fourth and fifth ranks are *Environmental arrangement* and *Inform of physical assistance*, which belong to Cluster Two.

Table 3
Summary of Survey Results (N=26)

Strategies to promote social interaction		Three most useful[c]	
		Total points	**Rank**
Cluster I			
	Make interpretation	29	1
	Prompt for direct communication	25	2
	Invite participation	22	3
	Follow through	10	6
	Answer peer's questions	7	9
	Prompt for identifying peers/activities	5	10.5
	Help with movement	4	12
	Provide acknowledgement	9	7
	Add information to the conversation	1	13
Cluster II			
	Environmental arrangement	12	5
	Fade from interactions	8	8
	Inform of physical assistance	17	4
	Provide sensory input	5	10.5

[c] Participants indicated the three most useful strategies. A value of 3 was assigned to the most useful, a value of 2 to the second most useful and a value of 1 to the third most useful. A rank of one was assigned to the strategy with the highest number of points.

DISCUSSIONS

Based on results indicated in Table 2, the average scores in Scale A and B are relatively close and do not indicate large amount of differences. Therefore, while the ranks of the strategies are reported, specific attention is focused on the comparisons of the strategies that received 2 point plus average (representing "somewhat useful" to "useful") versus 3 point plus average (representing "useful" to "very useful").

Scale A. The Usefulness of the Strategies

Results from Scale A suggested that all strategies but one (*Add information into the conversation*) are rated as useful to very useful, with an above 3.0 average. Educators perceived all strategies (both in Cluster One and Two) as very useful but did not value the importance of *adding information into conversations* for children with moderate to severe disabilities. The top useful strategies revealed in Scale A include (in ranked order): *Environmental arrangement*, *Fade from children's interactions*, *Make interpretation for peers*, and *Prompt for direct communication*.

Scale B. The Observed Frequency in the Practices

Results from Scale B suggest that the majority of the listed strategies (8 out of 13) were not observed frequently in the classrooms. The strategies that were used infrequently in the classroom include (in ranked order): *Prompt for identifying peers/activities*, *Add information into the conversation*, *Help with movement*, *Provide acknowledgement*, *Follow through*, *Provide sensory input*, *Make interpretation*, and *Answer peers' questions*.

It should be noted that among the aforementioned strategies, with the exception of the strategy "*Add information into conversation*", all received above 3.00 average in Scale A ("useful" to "very useful") and yet were observed infrequently in the classrooms. These strategies should be addressed more in the teacher preparation programs in preparing teachers who work with children with moderate to severe disabilities. Particularly, *Make interpretation for peers* is ranked as the third useful strategy in Scale A, and yet was observed infrequently in the classroom. It is a strategy that requires significant attention in teacher preparation.

Scale C. Three Most Useful Strategies Among Thirteen

While respondents were asked to rank the top 3 most useful strategies among 13, the top strategies that received the highest rankings include (in ranked order): *Make interpretation*, *Prompt for direct communication*, and *Invite participation*.

In Scale A, when respondents rated individual strategies on the usefulness scale, two strategies in Cluster Two stood out to be the top strategies (*Environmental arrangement* and *Fade from interactions*), followed by *Make interpretation* and *Prompt for direct communication* from Cluster One. However, in Scale C, when respondents were asked to choose the top 3 most important strategies among 13, the top two strategies shifted to Cluster One (*Make interpretation* and *Prompt for direct communication*) in comparison to Scale A. When respondents rated individual strategies on its own without comparing to other strategies, the strategies in Cluster Two received fairly high usefulness rating. Yet when respondents compared 13 strategies against one another, they chose the strategies in Cluster One as more useful in directly promoting social interactions rather than Cluster Two. This shift may be relevant to the nature of these two Clusters, given that Cluster One directly encourages or responds to peers to promote interactions, whereas Cluster Two sets the environment or enhances the participation of the children with moderate to severe disabilities. Regardless, it should be noted that *Make interpretation* and *Prompt for direct communication* were rated as highly useful across Scale A and C, which has indicated the overall consistency in respondents' ratings.

Among top 5 high usefulness ratings in Scale C, *Make interpretation* is ranked as the top most useful strategy in Scale C and yet was used infrequently as rated in Scale B. *Make interpretation* is an important strategy for teacher preparation programs to introduce to in-service and pre-service teachers.

CONCLUSION

This study examines the views of educators on the importance of 13 peer-mediated strategies derived from a review of the literature as well as classroom-based projects. This study has shown that while educators value the usefulness of 12 naturalistic peer-mediated strategies among a list of 13, yet a majority (8 out of 13) of strategies were not used frequently in the classrooms based on the practitioners' observations. Training on the implementation of these peer-mediated strategies across curriculum areas and in various program contexts is deemed to be important.

IMPLICATIONS AND LIMITATIONS

One mission of teacher preparation programs is to equip pre-service and in-service teachers with values, knowledge, pedagogies, and skills necessary to implement evidence-based practices in the classrooms. While PMII are well supported in the literature (Bentley, 2007; Carter & Kennedy, 2006; Goldstein et. al., 2007; Hanline, 1993; Hemmeter, 2000; Klavina, 2008; Robertson et. al., 2003), in practice these strategies are not widely implemented to serve children with special needs in the classrooms based on the results of this study. These findings echo the findings by Carter and Pesko (2008) and West et al. (2007). There is a need to close the research and practice gap and the key to bridging the gap in this case, is neither the value nor the attitude of educators. Rather, the key is to equip our pre-service and in-service teachers with the pedagogies and skills necessary to implement peer-mediated strategies in their classrooms. Emphasis should be placed on the training of strategy implementation across various curriculum contexts and early childhood programs. Methods in adapting evidence-based strategies and interventions for individual classrooms need to be taught in teacher preparation programs. For researchers, while it is important to investigate, develop, and refine effective strategies and interventions, barriers hindering the implementation of such strategies and methods in adapting for individual classrooms need to be addressed.

A limitation of the study was its small sample size (N=26) in one community. While the information is useful to provide feedback to the teacher preparation programs in the local context, replication is necessary in making generalizations. Future research may examine this topic in broader geographic and program contexts. Future research may also examine how and to what extent the strategies enhance the frequency and quality of interactions and participations for children with moderate to severe disabilities in inclusive settings.

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