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Early interventionists' appraisals of intervention strategies for toddlers with autism spectrum disorder and their peers in inclusive childcare classrooms

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Abstract

Mounting evidence supports several naturalistic developmental behavioral interventions (NDBI) for toddlers and preschoolers within inclusive childcare centers and preschools. However, these interventions pose many barriers to community implementation. As part of a larger project to create an adapted NDBI for early educators in childcare centers, we surveyed 101 early interventionists who had worked with a toddler with autism within the last 12 months. Early interventionists rated 22-of-31 NDBI strategies to be significantly more effective for All Toddlers versus Toddlers with Autism. However, when comparing the top 10 rated strategies between groups, there was a large degree of overlap. Moreover, many of these highly rated NDBI strategies are consistent with best practice accreditation and early education standards within the United States.

Keywords

autism spectrum disorder; naturalistic developmental behavioral interventions; community implementation; childcare

Autism spectrum disorder (ASD) is a developmental disorder that can be reliably identified among many children in the second year of life (Guthrie, Swineford, Nottke, & Wetherby, 2012; Kleinman et al., 2007). Evidence based early interventions such as naturalistic developmental behavioral interventions (NDBI) have been shown to bolster language, cognitive, and social development among toddlers with ASD (Schreibman et al., 2015). A

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growing proportion of children are receiving early comprehensive evaluations and initial diagnoses before 36 months of age and are therefore eligible to capitalize on the benefits of early intervention services during a critical developmental window (Adams & Tapia, 2013; American Speech-Language-Hearing Association, 2018; Mandell et al., 2016). However, many families with recently evaluated or diagnosed toddlers are likely to face challenges beyond identifying and securing appropriate services. Perhaps most notably, and least addressed, is the struggle to identify and obtain a developmentally appropriate childcare placement for their child with ASD. Montes and Halterman (2008) found, in a large national survey, 39% of parents of preschoolers with ASD reported that childcare difficulties greatly affected their employment decisions (i.e., quit a job, did not take a job, or greatly changed their job) - significantly greater than parents of children with and without other risk factors (Montes & Halterman, 2008).

Fortunately, researchers have developed and tested a number of comprehensive evidence-based NDBIs for toddlers and young children in inclusive early childhood settings that include both children with and without developmental delays and difficulties. However, current inclusive early childhood intervention models for toddlers and preschoolers with ASD are complicated, expensive, and difficult to implement - often requiring months-to-years of expert training and coaching coupled with supervision and feedback (Chang, Shire, Shih, Gelfand, & Kasari, 2016; Stahmer & Ingersoll 2004; Strain & Bovey, 2011; Vivanti et al. 2014).

In an effort to promote increased access to evidence-based early intervention in communities, researchers have begun to leverage implementation science to explore inner context implementation factors (e.g. individual adopter characteristics, fidelity monitoring, organizational structure) of NDBIs for inclusive settings that serve toddlers and preschoolers (Moullin, Dickson, Stadnick, Robin, & Aarons, 2019; Vivanti et al., 2018). Although a full explanation of implementation science is beyond the scope of the current manuscript, we offer an example of a community implementation effectiveness study of an NDBI, the Early Start Denver Model (ESDM), in an inclusive childcare setting (Vivanti et al., 2014) as well as two review articles of prominent implementation science frameworks that have informed our research and that provide breadth and depth of implementation science terms (Kirk et al., 2015; Moullin et al., 2019).

Vivanti and colleagues (2014) explored and found high levels of early educator feasibility across several domains in their community implementation of ESDM (i.e., acceptability [retention rate, surveys], practicality [degree to which program attainable within existing constraints], and adaptation/integration [level of system change required to deliver ESDM]). However, although Vivanti and colleagues' (2014) ESDM effectiveness study represents an advancement in autism implementation science research, the findings are limited in their generalizability to most inclusive childcare contexts serving toddlers with ASD given the organizational factors (Moullin et al., 2019) noted within the studied context that supported both the intervention and comparison sites. For example, both the intervention and comparison sites: (1) had already established adequate funding streams to provide high quality and intensive intervention services (i.e., government support, parental contribution); (2) had already employed a range of interventionists with ASD specific educational and

professional experience, and (3) had already mandated extremely low educator-to-child ratios (Vivanti et al., 2014).

Thus, while it may be true that community-based ESDM may be an appropriate evidence-based intervention to implement for sites with similar inner setting organizational and individual adopter characteristics (e.g., low educator-to-child ratios, knowledgeable and skilled providers) and outer setting funding/policy structures (e.g., government support); it is not true that community-based ESDM is likely to scale up within the majority of inclusive community childcare centers serving toddlers with ASD in the United States. The organizational context and current funding policies for early intervention in the United States, particularly for inclusive day programs, are extremely disparate from those described in the Vivanti and colleagues (2014) effectiveness study.

Fortunately, highly renowned ASD intervention experts recently reached consensus that many evidence-based early interventions for toddlers with autism share overlapping core components and can be classified as naturalistic developmental behavioral interventions (NDBIs; Schreibman et al., 2015). NDBIs share a similar set of evidence based behavioral strategies that are rooted in operant conditioning and are deployed via a developmentally appropriate and individualized approach within a child's natural environment (Schreibman et al., 2015).

Given the expert consensus, it may be particularly opportunistic for researchers to begin to move away from the unique manualized interventions that have demonstrated efficacy and effectiveness for the NDBI model and consider moving towards a unified NDBI that includes all overlapping strategies, consistent with the emerging work of Frost (2018) and Vibert and colleagues (2020). A unified NDBI model would facilitate the development of research studies designed to isolate the active ingredients of NDBI as well as research studies evaluating which active ingredients of NDBI work best for whom, and to what degree.

Moreover, it is also worthy to consider the impact a unified NDBI model may have on adaptation and implementation. Working from a unified NDBI model, comprised of core components with a strong evidence base across many research studies, researchers and stakeholders can work together collaboratively to adapt the unified NDBI to their specific context (Vivanti et al., 2018). As researchers work to identify both the active ingredients of a unified NDBI and their differentiated use among varying child presentations, the unified NDBI model will further strengthen and promote even stronger contextual adaptations and implementation outcomes. We employed the concept of a unified NDBI model in our current study - a community adaptation for childcare providers working in inclusive childcare classrooms serving toddlers with ASD.

In an effort to begin the multi-step process of identifying an appropriate set of NDBI strategies for universal use in an inclusive toddler childcare setting we interviewed expert researchers in early intervention for young children with autism and surveyed childcare providers and early interventionists who had recently worked with a toddler (15-to-36-months) with diagnosed or suspected ASD.

This brief report focuses on the findings of our early interventionist survey. Early interventionists were identified as a key stakeholder group in this adaptation because they are common community providers of early intervention for toddlers with and without ASD. We surveyed early interventionists regarding their clinical perspectives on the effectiveness and practicality of common NDBI strategies for use in inclusive childcare settings. Our goal was to determine if early interventionists perceived a set of NDBI strategies to be both practical for use in inclusive childcare settings and effective for Toddlers with ASD *and* All Toddlers – given that universal use of strategies within the classroom may promote more frequent use among childcare providers.

Method

Participants and Recruitment

We recruited 101 early interventionists who endorsed that they had provided treatment for a toddler with ASD between 15-to-36 months of age within the last 12 months to complete an Internet-delivered survey evaluating the perceived effectiveness of 31 NDBI intervention strategies on specific target behaviors for All Toddlers and Toddlers with Autism as well as the perceived practicality of using each strategy within an inclusive toddler classroom. EI providers were told that the researchers were interested in developing an effective, acceptable, and feasible intervention for childcare providers who find themselves in inclusive classrooms where one (or more) of their toddlers has an autism spectrum disorder diagnosis. A total of 86 early interventionists completed at least some ratings of intervention strategies. EI providers were predominantly female (97.7%), were highly educated (BA = 18.2%, MA = 80.7% PhD=1.1%) and ranged in years of experience working as early interventionists with toddlers with ASD from 0-to-33 years ($M=9.25$, $SD=8.83$). Nearly half (44%) of EI providers also had previous experience working in center-based childcare classroom settings as childcare providers.

Measures

Early Interventionist Survey: Early interventionists were asked to rate 31 common intervention strategies used in NDBI for toddlers with ASD in relation to one of seven common behavioral targets (i.e., requesting, engagement, expressive communication, functional play, imaginative play, imitation, or joint attention). Each strategy was rated for effectiveness with Toddlers with Autism and effectiveness with All Toddlers on the following 5-point Likert scale: 1 being “not at all” effective, 3 being “somewhat effective,” and 5 being “very much” effective in addressing the identified behavioral target. In addition, to assess feasibility for use in a group setting, EI providers also rated the perceived practicality of each specific strategy for use in an inclusive toddler early education setting on the following 5-point Likert scale: 1 being “not at all” practical, 3 being “somewhat” practical, and 5 being “very much” practical for use in an inclusive toddler center-based childcare classroom.

Common intervention strategies were identified by reviewing evidence-based NDBI peer-reviewed journal articles and publicly available manuals (Ingersoll & Wainer, 2013; Kasari, Freeman, & Paparella, 2006; Kogel & Kogel, 2006; Rogers, Dawson, & Vismara, 2012;

Strain & Bovey, 2011) as well as by completing semi-structured interviews with experts in ASD intervention development (Maye et al. 2016). We opted to choose strategies that were specific, detailed, and easy to understand given that the goal of this study was to identify strategies for use in inclusive toddler childcare classrooms where providers have a range of educational backgrounds and likely have no previous intervention experience. Broadly, these strategies encompassed many of the identified NDBI overlapping components: child-initiated teaching episodes, environmental arrangement, increasing/enhancing motivation of child through natural reinforcement, use of prompting and prompt fading, balanced-turns, modeling, and adult imitation of a child's language and play (Schreibman et al., 2015). The corresponding common behavioral targets were chosen by the authors as anchors for EI providers to conceptualize using the strategies with toddlers and were determined by the authors' readings of NDBI intervention manuals and clinical perspectives. We acknowledge that each intervention strategy is appropriate for more than one behavioral target and that many of these strategies are very often used in conjunction with one another to facilitate therapist-child-interactions. However, to reduce EI provider participant burden we chose to identify one behavioral goal per strategy to gain a general understanding of the EI providers perceived effectiveness of using that strategy.

Procedures

We used convenience sampling to recruit early interventionists by engaging local early intervention center-directors and asking them to distribute an email with a link to our Internet survey to their staff. We identified early intervention center-directors by completing a web search using a large, publicly available, database of local Early Intervention centers. We contacted 48 early intervention center-directors within a large north-eastern metropolitan area. Of the 48 center-directors contacted, 28 responded and 22 agreed to distribute our survey to their program's early interventionists. Data collection occurred over 14 months from initial contact of center-directors to final surveys being collected. A total of 101 early interventionists initiated an online survey. Of these, only 86 interventionists rated any of the intervention strategies. Thus, a total of 15 early interventionists were dropped from the current set of analyses.

Compliance with Ethical Standards

This research study was approved by our institutional IRB and informed consent was obtained for all participants. The authors have no conflicts of interest to declare as related to the current study.

Analytic Plan

First, we examined the mean differences in EI provider ratings of effectiveness*practicality for Toddlers with Autism versus All Toddlers. We computed a combined perceived effectiveness*practicality variable for each of the 62 perceived effectiveness variables (i.e., Autism *or* All Toddlers) that was the cross-product of the EI provider's Autism or All Toddler Effectiveness rating and the Classroom Practicality rating, which was the same rating for both groups. Next, we completed paired sample t-tests comparing early interventionists' ratings across Toddlers with Autism and All Toddlers for each of the 31 strategies. Effect sizes were calculated for all pairs (Cohen, 1988).

Secondly, we were interested in identifying a set of intervention strategies that were rated as highly effective and practical for use in a toddler early education classroom for Toddlers with Autism as well as All Toddlers, more generally. We rank ordered the EI provider effectiveness*practicality ratings of the 31 strategies for Toddlers with Autism and All Toddlers and compared the overlap in rankings.

Results

First, we assessed for, and addressed, non-normality for each of the 93 variables of interest (i.e., 31 perceived effectiveness ratings for All Toddlers, 31 perceived effectiveness ratings for Toddlers with Autism, and 31 ratings for practicality of intervention strategy use in an inclusive toddler early education classroom). Limits for skewness and kurtosis were set at ± 2 (Ghasemi & Zahediasl, 2012). Box-cox transformations were completed on 55 (of 93) variables to address non-normality.

Next, given that 44% of our sample of early interventionists had worked in center-based early education settings as teachers, assistant teachers, aides, or center directors we performed independent samples t-tests across all 93 variables to assess whether ratings varied based on experience. We found that there were no differences between EI provider ratings of perceived effectiveness of strategies for both Toddlers with Autism and All Toddlers. However, early interventionists who had worked in a center-based childcare setting assigned significantly *higher* practicality ratings to 2 of 31 strategies than those with no center based experience: 1) “Follow a child’s toy choice and engage with that toy,” ($M=4.47$, $SD=.64$ versus $M=4.03$, $SD=.75$, $p<.01$) and 2) “Prompt a child to engage in play (e.g., move toys close, provide general and specific prompts, model the play),” ($M=4.45$, $SD=.76$ versus $M=3.95$, $SD=.947$, $p=.01$). As there were only these two differences, center based early educator experience was not covaried in subsequent analyses.

Perceived effectiveness*practicality comparisons (Toddlers with Autism vs. All Toddlers)

We completed paired samples t-tests with pairwise deletion comparing early interventionists’ ratings of perceived effectiveness*practicality of each strategy for Toddlers with Autism and All Toddlers on the targeted behavior goal (See Table 1 which presents all 31 t-tests and effect sizes calculated for each pair).

We found that early interventionists perceived a majority of the identified early intervention strategies to be significantly more effective for All Toddlers than for Toddlers with Autism. Only one strategy was identified as significantly more effective for Toddlers with Autism ($M=17.95$, $SD= 5.77$) than for All Toddlers ($M=16.89$, $SD=5.94$; $p=.001$, $d=.383$ [i.e., “Label desired objects in the classrooms with Velcro pictures children can remove and give to others,” behavioral target: requesting]). A total of 22 of the 31 strategies were rated as significantly more effective for All Toddlers versus for Toddlers with Autism. Effect sizes for significant differences in effectiveness*practicality ratings of these strategies ranged from small to large with the largest effect sizes observed when considering strategies assigned imaginative play as the target behavior ($d=.88-1.01$) and the smallest effect size observed when considering a strategy assigned engagement as the target behavior ($d=.30$).

There were no significant differences in perceived effectiveness ratings for the 8 remaining strategies.

Ranked Strategies

Mean ratings of combined effectiveness*practicality scores ranged from 11.59-to-23.13 for All Toddlers and 9.61-to-22.16 for Toddlers with Autism (out of 25 possible). Overall, 8 of the top-10 rated effectiveness*practicality strategies for Toddlers with Autism also fell within the top-10 rated effectiveness*practicality strategies for All Toddlers. Four of the 8 strategies where EI providers did not report significant differences in perceived effectiveness*practicality between Toddlers with Autism and All Toddlers fell within the 10 top-ranked strategies for both Toddlers with Autism and All Toddlers. Finally, effect sizes ranged from nil to medium within the 10 top-ranked strategies for Toddlers with Autism. Large effect sizes were only observed between Toddlers with Autism and All Toddlers outside of the 10 top-rated intervention strategies for toddlers with ASD. Table 1 presents the strategies in rank order for Toddlers with Autism (ASD Rank) and shows the corresponding rank order for All Toddlers (All Rank).

Discussion

Generally, EI providers perceived NDBI strategies as significantly more effective for All Toddlers than for Toddlers with Autism. EI providers rated only eight of the 31 common NDBI strategies as similarly effective for both groups (i.e., Toddlers with Autism and All Toddlers) – and only one strategy as more effective for Toddlers with Autism than for All Toddlers. Of note, however, eight of the top-10 rated combined effectiveness and practicality strategies for Toddlers with Autism also fell within the top-10 rated combined effectiveness and practicality strategies for All Toddlers. And of these top eight overlapping strategies, four were rated as similarly effective for both Toddlers with Autism and All Toddlers. The remaining six top-10 rated strategies for Toddlers with Autism were either rated as significantly less effective for All Toddlers or not identified within the top-10 rated strategies for All Toddlers.

Interestingly, we observed that nine of the top-10 highest rated combined effectiveness and practicality strategies for Toddlers with Autism are similar to the types of strategies/activities that are already included in standard observational assessments of childcare classroom quality in the United States (La Paro, Hamre, & Pinata, 2012; Lahti et al., 2015; National Center on Child Care Quality Improvement, 2011) and outlined in the accreditation requirements of the National Association for the Education of Young Children (NAEYC; NAEYC Early Learning Program Accreditation Standards and Assessment Items, 2018). Although this finding may not be surprising, it is important in informing a community childcare adaptation of NDBI. It is highly possible, for example, that many of the highly ranked NDBI strategies that overlap with national accreditation and standards of care may already be adequately implemented in accredited childcare centers in the United States.

Thus, including these strategies into a community adapted NDBI model will both provide a common language and skill-set for an NDBI trainer to build on with childcare providers as well as free up more education/coaching/consultation time for core NDBI strategies that fall

outside of the expected skill/education set of childcare providers (e.g., three-part contingency, balanced turns, child-initiated teaching episodes) but are considered by experts to be a core component of the intervention. Future research is needed, however, to determine how often and to what level of fidelity these overlapping strategies are implemented in every-day practice.

Further, emphasizing overlapping NDBI strategies in a community childcare NDBI adaptation would capitalize on early educator stakeholders' existing knowledgebase and likely support implementation of the full model via increased initial ratings of implementation factors on both the individual level (e.g., knowledge of the evidence based practice; attitudes toward the evidence based practice) and the organizational level (e.g., readiness for change [openness to adopting new practice]; EPIS Constructs, 2019; Moullin et al., 2019). Highlighting and emphasizing childcare providers' existing skill set and childcare leaderships' existing mandates to uphold would likely facilitate adoption of the full model - even while concurrently incorporating additional core NDBI components that might be perceived by these stakeholders as more time consuming, complex, or difficult.

Finally, although strategies that were more complex, advanced, and/or time consuming were often rated lower overall, it is possible that many NDBI strategies such as direct teaching, prompting, and fading would fit well within a group dynamic that offered some 1-to-1 learning opportunities as is seen in the preschool adaption of Joint Attention Symbolic Play Engagement and Regulation (JASPER; Chang et al., 2016). It will be important to consider whether strategies that may require greater deviation from usual practice (e.g., special materials, facilitation of peers, advanced daily planning) are critical to teaching social communication skills within an inclusive childcare setting - and, if so, the best implementation strategies to support these types of NDBI strategies.

Limitations

Although there were no major differences in ratings of either strategy effectiveness or practicality between early interventionists who had and had not worked in childcare centers with toddlers, our study is limited by the fact that at present there is not a single stakeholder that can expertly provide insight regarding both the perceived effectiveness and practicality of NDBI strategies within a childcare setting. We did not ask childcare providers for their perspectives regarding effectiveness and practicality because they have not traditionally provided routine intervention for toddlers with autism in their classrooms.

Additionally, in terms of survey design, it is also possible that EI providers may have believed that a specific strategy was not effective for the identified target behavior – but was effective in targeting a different behavior. Thus, the effectiveness ratings may only be representative for the target behaviors identified in the survey. To address this limitation, future research should consider asking early interventionists to rate NDBI strategies effectiveness in relation to several potential target behaviors, or to ask EI providers to consider the strategies general effectiveness when working towards individual child goals. This information may be useful when combined with the knowledge and perspectives of early intervention developers in identifying core strategies for a community NDBI adaptation appropriate for inclusive childcare settings.

Moreover, it will be particularly useful to conduct future research evaluating child care providers' current use of those highly ranked NDBI strategies already embedded within accreditation requirements. It will also be important to gain current childcare providers' perspectives on integrating other core components of NDBI (e.g., direct teaching; three-part contingency), that were less highly ranked, into classroom practices. Finally, current childcare providers should also be surveyed regarding their openness to/desired format of additional training, knowledge of autism, and current and/or previous experiences working with a toddler with autism in their classroom. Considered together, the experiences of childcare providers and early interventionists, together with the perspectives of expert input, will be critical in developing a contextually appropriate childcare center adaptation of a unified NDBI model.

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Table 1. Comparison of Early Interventionists' Ranking of NDBI Strategies for All Toddlers (ALL) vs Toddlers with Autism (ASD)

Target Behavior	Intervention Strategy	ASD RANK	ASD* Pract (M)	SD	ALL RANK	ALL* Pract (M)	SD	ASD versus ALL Paired Samples T- Test	
								<i>d</i>	
Functional Play	Establish play routines (predictable, repeatable, clearly defined roles, at children's developmental level).	1	22.16	3.10	3	22.31	3.04		.08
Engagement	Be fun and engaging. Be silly, playful, and creative. Use extra smiles and laughter during interactions with children.	2	20.56	4.18	1	23.13	2.26		0.76**
Functional Play	Engage toddlers in play interactions, model using the materials appropriately.	3	20.30	4.32	4	21.72	3.34		0.61**
Engagement	Incorporate preferred materials in different parts of the daily schedule.	4	20.01	4.63	10	19.88	4.59		.09
Imitation	Play imitation games (e.g., The Itsy Bitsy Spider, If You're Happy and You Know It, instrument games where children copy).	5	19.95	5.44	2	22.54	2.55		0.61**
Expressive Communication	Incorporate non-word sounds into activities.	6	19.86	4.74	8	20.11	4.40		.09
Engagement	Follow a child's toy choice and engage with that toy.	7	19.42	4.66	13	19.56	4.69		.07
Engagement	Give students choices in the different activities that they can participate in.	8	19.05	5.67	5	21.67	3.19		0.69**
Joint Attention	Hold objects, in a natural way, at child's eye level throughout an interaction to encourage eye contact.	9	18.34	5.53	20	17.87	6.46		.11
Joint Attention	Show objects to children throughout the day by pointing out objects and commenting on them.	10	18.02	6.13	7	20.11	5.46		0.70**
Requesting	Label desired objects in the classrooms with Velcro pictures children can remove and give to others.	11	17.95	5.77	25	16.89	5.94		0.38**
Imitation	Imitate children's actions with a toy. S/he plays, you imitate play.	12	17.93	5.60	14	19.54	4.34		0.37**
Joint Attention	Frequently ask children to give you objects using a gesture, over time remove the gesture.	13	17.88	5.15	21	17.85	5.27		.01
Engagement	Provide a mix of easy and difficult tasks to encourage engagement and challenge growth.	14	17.54	5.59	9	20.09	4.64		0.81**
Engagement	Prompt a child to engage in play (e.g., move toys close, provide general and specific prompts, model the play).	15	17.54	6.24	16	18.54	5.57		0.30*
Joint Attention	Point out objects by looking at them, directing a child's attention to them, and looking back at the objects while commenting.	16	17.32	6.18	15	19.04	5.54		0.42**
Expressive Communication	Describe the toys, materials, and activities that you are engaging children in.	17	17.24	6.78	12	19.72	5.87		0.70**

Target Behavior	Intervention Strategy	ASD RANK	ASD [*] Pract (M)	SD	ALL RANK	All [*] Pract (M)	SD	ASD versus ALL Paired Samples T- Test	
								d	
Imaginative Play	Engage students in imaginative play interactions, model using dolls and other toys (e.g., walking a doll across the floor to eat a snack, using a block as a telephone).	18	17.13	5.30	6	21.04	3.60	.99	**
Expressive Communication	Reflect and expand on children's verbal communication.	19	17.02	6.41	11	19.81	5.39	0.88	**
Joint Attention	Ask children to show you objects they are holding, if child responds comment on the object very enthusiastically.	20	16.73	7.62	17	18.46	6.56	0.41	**
Requesting	Following an initial request, pause to see if the child will expand their request through additional communication strategies (e.g., eye contact, gesture, words).	21	16.62	6.31	18	18.38	5.95	0.63	**
Joint Attention	Point out objects to children frequently throughout the day - point at objects that are both far away, and nearby.	22	16.39	6.45	19	17.97	5.85	0.43	**
Imitation	Take a turn with a toy, pass to child and offer a turn (during 1:1, circle time, etc.).	23	15.57	6.89	22	17.45	6.51	0.48	**
Imitation	Have multiples of popular toys in your classroom to encourage turn taking and imitation.	24	15.38	6.97	23	17.28	6.62	0.59	**
Joint Attention	For children who do not point, help the child point by molding his/her hand into a point if they reach for something; also during small group or 1:1 story time.	25	15.34	7.70	28	15.73	7.81	.10	
Engagement	Begin a new activity if attention decreases substantially.	26	15.07	6.76	29	15.27	6.83	.07	
Requesting	Incorporate toys that require adult help during free play, large and small group activities.	27	14.83	6.83	27	15.99	6.98	0.32	*
Expressive Communication	Give children the time and space to respond; after giving a prompt wait for child to respond. Do not respond for them.	28	14.12	6.63	24	17.01	5.79	0.87	**
Imaginative Play	Model/act out different "scenes from life" such as a visit to the doctor's office, playing house, or play dates.	29	12.40	6.52	26	16.65	6.14	0.94	**
Imaginative Play	Purposefully leave toys out of dramatic play area to encourage use of "invisible objects" (e.g., model by pretending to hold a baby bottle and feed a baby).	30	9.77	6.57	30	14.43	7.10	0.88	**
Functional Play	Change play routine regularly (violate steps in established play routines).	31	9.61	6.72	31	11.59	6.92	0.58	**

Note: yellow = small effect size (.2–<.5), orange = medium effect size (.5–<.8), green = large effect size (>.8);

* = p .01;

** = p .001