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Abstract

Relatively little is known about the role of early interventionists as teachers of caregivers. The current study was conducted to better understand interventionists' perspectives about teaching caregivers. A national sample of 1525 multi-disciplinary interventionists completed an online questionnaire which elicited information about interventionists' preferences for use of caregiver teaching strategies, factors influencing decisions about teaching strategy use as well as comfort in, frequency of, and barriers to teaching caregivers. Use of a range of teaching strategies across contexts was reported. Differences emerged in teaching strategy preference based on experience in teaching specific skills and years of experience in early intervention. Ten themes emerged as rationales for teaching strategy selection. Interventionists reported moderate confidence in and frequency of caregiver teaching and few barriers to teaching. Results suggest a preference for use of multiple strategies and selection factors based on experience, perceived caregiver benefit, or other general factors such as interventionist preference.

Keywords: Part C Services, infants and toddlers, parent training

Early Interventionists' Perspectives on Teaching Caregivers

Children with disabilities, as well as typical children, learn various skills through their participation in everyday activities and routines. Studies illustrate that embedding learning opportunities into natural activities and routines leads to better performance in a range of skills, including communication (Craig-Unkefer & Kaiser, 2002; Woods, Kashinath, & Goldstein, 2004), social skills (Brigman, Lane, Switzer, Lane, & Lawrence, 1999; Venn, Wolery, Werts, Morris, DeCesare, & Cuffs, 1993) and self-help skills (Sewell, Collins, Hemmeter, & Schuster, 1998). Children's engagement in everyday activities/routines provides a high dose of learning opportunities with natural and timely feedback (Pretti-Frontczak & Bricker, 2004), and children with disabilities show increased motivation and interest when participating in activities with their families or peers (Cross, Traub, Hutter-Pishgahi, & Shelton, 2004; Dunst et al., 2001). When educational opportunities are spread over time (i.e., embedded into naturally occurring activities/routines), rather than provided as condensed teaching moments in an individual session, children demonstrate enhanced learning (Cepeda, Pashler, Vul, Wixted, & Rohrer, 2006).

Several early intervention models reflect the principle of using children's everyday activities and routines as contexts for learning, a practice that aligns with the Division of Early Childhood (DEC) recommended practices in early intervention (Wolery, 2005). These models include activity-based (e.g., Pretti-Frontczak & Bricker, 2004), participation-based (e.g., Campbell, 2004), routines-based (e.g., McWilliam, 2010), and learning opportunities (e.g., Dunst, 2000; Dunst et al., 2001; Dunst & Bruder, 1999). The DEC further recommends that interventionists employ practices that empower caregivers to interact with their children to enhance children's learning between home visits (Trivette & Dunst, 2005). In each of the above-mentioned models, caregivers (e.g., parents, early childhood teachers) are viewed as primary

implementers of embedded intervention and early interventionists as teachers of a child's primary caregivers. When caregivers are able to teach children effectively across everyday activities and routines, the number of opportunities for children to practice and learn a skill is greater than when learning opportunities occur primarily via professionally provided intervention sessions (e.g., Jung, 2003).

Early Interventionist Use of Caregiver Teaching Strategies

Caregivers report that being taught strategies to use with their children is helpful (Campbell, Sawyer, & Muhlenhaupt, 2009; Harrison, Romer, Simon, & Schulze, 2007; Klein & Chen, 2008), and evidence shows that caregivers can successfully use strategies to promote their children's developmental outcomes (e.g., Hancock, Kaiser, & Delaney, 2002; Kaiser, Hancock, & Nietfield, 2000; Woods, Kashinath, & Goldstein, 2004). Information about what, where, and when early interventionists teach caregivers is less clear. Inconsistencies result from how data are collected as well as from other characteristics. For example, when observed during home visits, early interventionists frequently work directly with children and infrequently teach caregivers (Campbell & Sawyer, 2007, 2009; Colyvas, Sawyer, & Campbell, 2010; McBride & Peterson, 1997; Peterson, Luze, Eshbaugh, Hyun-Joo, & Kantz, 2007; Wilcox & Lamorey, 2004). However, when data are collected through interviews or surveys, early interventionists report that they teach caregivers. For example, 167 early interventionists who provided information via survey reported frequently discussing intervention strategies with caregivers (Ridgley & Snyder, 2010). In another survey study, interventionists reported using activities and strategies described as family-centered practice, including one strategy in which triadic interactions (interventionist teaches caregiver, and caregiver teaches child) were encouraged (e.g., Klein & Chen, 2008). Findings such as these suggest that self-reported data generally

reflect an ideal or optimal practice that seldom actually occurs (Crais, Roy, & Free, 2006; Fleming, Sawyer, & Campbell, 2011; McWilliam, Snyder, Harbin, Porter, & Munn, 2000; Pappas, McLeod, McAllister, & McKinnon, 2008).

To date, studies related to caregiver teaching emphasize the extent to which it occurs. To the best of our knowledge, only two studies have been designed to investigate the specific teaching strategies that interventionists use when teaching caregivers. Colyvas et al. (2010) reported about the teaching strategies used by 40 occupational therapists, and Cambray-Engstrom and Salisbury (2010) examined the collaborative consultation strategies used by four early interventionists working with 10 Latino families. In both studies, early interventionists were most likely to teach caregivers through conversation/information sharing, while other teaching strategies, such as caregiver practice or demonstrating, occurred less frequently.

In the current study, we examined the teaching strategies early interventionists reported using when targeting different child skills or in different situations (i.e., various activities/routines). We limited our definition of teaching strategies to three types of explicit teaching: discussion (i.e., reciprocal discussion using strategies such as active listening and reflective questioning around a range of topics such as child development or specific brainstorming around a specific problem area); demonstration with narrative (i.e., interventionist is directly working with the child while explicitly describing the intervention to the caregiver); and caregiver practice with feedback (i.e., caregiver works directly with the child while the interventionist gives prompts, suggestions, or encouraging comments to the caregiver). Although other teaching strategies may be used by interventionists, such as leaving handouts for caregivers to read or providing suggestions for caregiver follow-up on written visit notes or via

e-mail, we were interested in learning about the strategies interventionists use when directly interacting with caregivers.

Additionally, we were clear to distinguish explicit teaching from implicit learning opportunities that occur when the caregiver "learns" from watching the interventionist work with the child (with no explicit explanation of strategies used). Harrison and colleagues (2007) interviewed nine mothers about their learning experiences with therapists. The mothers stated that observing the therapists working with their children was the typical practice, but that it was not as helpful as being an active participant in the session. In a qualitative study of the Parents as Teachers program, Hebbeler and Gerlach-Downie (2002) found a similar result. Home visitors believed they were teaching parents when they were modeling adult-child interactions, but parents only recognized these home visitor-child interactions as learning opportunities for the children, not for themselves. Home visitors did not communicate to parents, and parents did not independently make the connection, that parents should be replicating these interaction styles with their children.

Characteristics Related To Caregiver Teaching

Caregiver teaching is probably not a dichotomous construct where early interventionists either teach or do not teach caregivers. Rather, the extent to which early interventionists teach caregivers may be related to the personal characteristics, beliefs, or barriers perceived by the interventionist. Interventionists' years of experience may be associated with caregiver teaching, but results have been inconsistent. Ridgley and Snyder (2010) found that years of experience as a home visitor related to the types of home visiting practices used by early interventionists while we did not find, in previous research, statistical differences between years of experience and practices used or beliefs about practices (Campbell & Sawyer, 2009; Sawyer & Campbell,

2009). Because an individual's level of efficacy is related to his/her behavior (e.g., Bandura, 1997; Justice, Mashburn, Hamre, & Pianta, 2008), caregiver teaching expertise may relate more to an individual's specific experience in using select strategies (that are being taught to caregivers) than to the global construct of years of experience. For example, a physical therapist most likely has more expertise than a speech-language pathologist with strategies for teaching gross motor skills while the speech-language pathologist would likely be more knowledgeable about specific language strategies.

Individuals' beliefs are related to their adoption and implementation of practices (e.g., Hall & Hord, 2001; Rogers, 2003). For instance, interventionists' perspectives about potential obstacles to teaching caregivers may influence the frequency with which they teach caregivers (Fleming et al., 2011). Interviews were conducted with 31 multidisciplinary early interventionists to better understand beliefs and self-reported practices about implementing participation-based services (Fleming et al.). Although several early interventionists mentioned their perceived lack of training to work with and teach caregivers as reasons why they were not able to implement participation-based practices, reasons for ability or inability to provide ideal practices were predominantly related to family/caregiver characteristics (e.g., education level of caregivers), home environment (e.g., siblings present during visit), and/or caregivers' expectations and understanding of early intervention (e.g., interventionist role as teacher of child). Other studies have reported caregivers' expectations about the service delivery model as potential barriers to an interventionist role of teaching caregivers (Salisbury, Woods, & Copeland, 2010).

Study Purpose and Research Questions

Some information is available about the occurrence of caregiver teaching, but less is known about the particular situations in which early interventionists teach caregivers or early interventionists' perspectives about teaching caregivers. One purpose of our present study was to build on the current work to understand interventionists' points-of-view in order to increase early interventionists' actual use of caregiver teaching strategies. Four specific research questions guided our work.

1. Which strategies do early interventionists report as most likely to be used to teach caregivers to use intervention strategies to promote children's skills within everyday activities and routines?
2. Are different teaching strategies selected by early interventionists based on their experience (a) in teaching the targeted child skill and (b) in early intervention?
3. What factors do early interventionists consider when teaching caregivers?
4. What information is reported by early interventionists about teaching caregivers in terms of interventionist comfort in and frequency of teaching and degree of perceived barriers to teaching caregivers?

Drawing on theoretical literature and the limited research to date, we hypothesized that interventionists would make different decisions about which teaching strategy to use based on context (i.e., activity/routine) or skills that are targeted for children. We also predicted that interventionists' experience with teaching specific skills would influence their preferred teaching strategy. Based on our previous work (Campbell & Sawyer, 2009; Sawyer & Campbell, 2009), we did not anticipate that differences would be evident in preferred teaching strategies by interventionists with different years of experience in early intervention. We hypothesized that

interventionists would report comfort and frequent use of caregiver teaching (because of self-reporting of ideal practices), but would also identify multiple barriers to teaching.

Method

Participants

Over 1500 early interventionists ($N = 1525$) recruited nationwide constituted the final study sample. A total of 1788 respondents began the online questionnaire but 120 were eliminated because they did not meet the participation criteria. Inclusion criteria included providing early intervention services directly to children ages birth to 3 and their caregivers during home visits (e.g., service coordinators were not eligible because they do not provide direct services). Participants were not limited to a specific discipline of practice, and participants represented a wide range of disciplines (e.g., occupational and physical therapists, speech-language pathologists, early childhood special education teachers, and vision/hearing specialists).

Additionally, 143 respondents were eliminated because they failed to complete 80% or more of the questionnaire. Analyses were run to determine whether responses of the 143 eliminated respondents were significantly different from those of the 1525 interventionists who completed the questionnaire. Respondents from the eliminated group ($n = 143$) and the retained group ($n = 1525$) did not differ on the mean response to the 10 Likert-scale questionnaire items, $t(1664) = -.215, p = .83$, nor did they differ in their years of experience in early intervention, $t(1586) = .413, p = .68$. We conducted chi-square analyses and found that eliminated respondents were not more likely to be teachers (i.e., the predominant discipline of the sample), $\chi^2(1,1666) = 1.08, p = .33$, nor more likely to hold a graduate degree, $\chi^2(1,1666) = .361, p = .58$. A significant difference was found in the ethnicity of the eliminated and retained groups, χ^2

(1,1666) = 11.92, $p = .001$; Caucasian respondents were more likely to complete the questionnaire and remain in the final sample than non-Caucasian respondents.

Demographic information for the final sample is provided in Table 1. The sample consisted predominantly of Caucasian, female early interventionists. Teachers (also known as special instructors, early intervention specialists, and developmental specialists) made up the largest percentage of the sample (42.4%). A majority of the sample held a master's degree (61%). The majority of early interventionists reported at least 10 years experience in their discipline area but were slightly less experienced (i.e., 9 or fewer years) in early intervention. Participants were from different regions of the country: Northeast (27%), Southeast (26%), Midwest (25%), Southwest (11%) and West (11%).

Procedures

A questionnaire to elicit perspectives of early interventionists about teaching caregivers during home visits was posted on a website (<http://www.surveymonkey.com>) for approximately 6 weeks. Our aim was to collect responses from a nationally representative sample of early interventionists. We divided the states geographically into five regions (see Table 1). Recent national figures of the number of children and families served in early intervention available from the U.S. Department of Education (2007) were used to determine the approximate proportion of children/families served in each of the five regions. The proportion constituted a general recruitment and response goal for each of the regions: 35% from the Northeast, 20% from the Southeast, 10% from the Midwest, 15% from the Southwest, and 20% from the West. As seen in Table 1, we met or exceeded our goal in the Southeast (26%) and Midwest (25%) but were below in the Northeast (27%), Southwest (11%) and West (11%).

To recruit participants, we employed a dual method. Our first tactic was to send an e-mail to each state's Part C Coordinator ($n = 51$) explaining the purpose of the questionnaire, the participants we were seeking, and inquiring whether the Part C coordinator would forward a recruitment e-mail to introduce and invite early interventionists to participate in the questionnaire. If the Part C coordinator responded favorably, we followed up with a recruitment e-mail letter addressed to early interventionists, which was then forwarded by the Part C Coordinator to early interventionists. The recruitment e-mail message described the questionnaire and its purpose, indicated who was eligible to complete the questionnaire (i.e., early interventionists providing direct services to children birth to 3 and their families during home visits), and provided the website address where the questionnaire could be completed. Twenty (39.2%) Part C Coordinators agreed to forward our recruitment e-mail.

When Part C Coordinators declined to forward an e-mail or when no response was received following two initial contacts, states' early intervention websites were searched to find contact information (i.e., e-mail addresses) for early intervention offices or agencies; in some states, we located regional or county contacts, while in other states, we found e-mail addresses for early intervention agencies. We were unable to locate additional contacts in only three states (two in Northeast and one in Southeast). E-mails were then sent to these contacts using the same procedure as described above for state Part C Coordinators. For these 28 states (i.e., no Part C Coordinator involvement but other contact information available), an average of six regional, county, or agency contacts agreed to forward our e-mail.

As noted above, we failed to reach our recruitment goals in three regions (Northeast, Southwest, and West). We attempted to remedy this in several ways. First, we e-mailed each of our website-identified contacts who had not yet responded an additional two times but did not

continue efforts past the two contacts if we still had received no response. Second, we sent one follow-up e-mail to our contacts who indicated they would aid us in recruitment to remind them to forward our recruitment e-mail. Third, in three states where the Part C Coordinator agreed to aid us in recruitment, we also found state or regional offices that agreed to forward our recruitment e-mail (two Northeast and one Southeast state; different from the states indicated in the preceding paragraph).

When participants accessed the web questionnaire, the purpose of the questionnaire was described and a general overview of the questionnaire (e.g., three sections, approximately 20 min to complete full questionnaire) was provided. Additionally, participants were reminded about which early interventionists were eligible to participate. To further verify inclusion eligibility, participants responded to a dichotomous item asking if they provided direct services to infants/toddlers and their caregivers during home visits. As stated earlier, participants were removed from analysis if they responded in the negative. We did not invite early interventionists directly so we do not have information about the number of interventionists who were invited to participate versus the number who completed the questionnaire.

As an incentive, four early interventionists who fully completed the questionnaire were chosen randomly to receive either a \$50 or \$100 retail gift card (i.e., two participants received \$50, and two received \$100). Those wishing to be entered into the drawing provided an e-mail address in the final question of the questionnaire. Following the gift card drawing, all information was promptly deleted.

Measure

Early interventionists completed a questionnaire designed to elicit information about: preference of caregiver teaching strategies (i.e., demonstration with narrative, caregiver practice

with feedback, or discussion); factors considered when making decisions about teaching strategies; and interventionist confidence in and frequency of teaching and their degree of perceived barriers to teaching caregivers. In addition, we collected demographic information (see Table 1).

An initial version of the questionnaire was pilot tested with 24 early interventionists in a local county who completed the questionnaire on-line. The pilot sample was asked to answer each item and then indicate any items that were poorly worded or confusing. At the end, participants were generally asked if they would add anything to the questionnaire or make additional changes other than clarifying wording. Based on their responses, we added items after each of the vignettes to ascertain the frequency with which the respondent worked on the target skill or activity/routine. Additionally, for the likelihood vignettes (described subsequently), the scale of likelihood of use was reduced from four points (i.e., *never, rarely, sometimes, often*) to three points (i.e., *not at all likely, a little likely, very likely*) because of limited variability in the initial four-point scale. Lastly, two Likert-scale items from the final section were dropped from the initial questionnaire because of limited variability in responses: (a) 83.3% of interventionists agreed/strongly agreed with the statement “I am satisfied with the amount of teaching I do with caregivers in a visit”; and (b) 100% of interventionists agreed/strongly agreed with the statement “I often need to use different teaching strategies with different families (e.g., more discussions with some families, more demonstration with others).”

To gain an understanding of interventionists’ preferences of caregiver teaching strategies (research question 1), we crafted six vignettes, with each vignette representing a specified child skill within an everyday activity/routine (i.e., fine motor skills in object play, gross motor skills [pull-to-stand] in outdoor play, communicating during mealtime, sleeping during bed- and nap-

time, behavior in grocery store, and social skills with children on playground). Different skills and different activities were selected to represent the variety of situations that early interventionists of different disciplines encounter. Vignettes were one to two sentences in length (e.g., “A caregiver expresses concern with taking her child to the grocery store because her child is very uncooperative.”). Each of the six vignettes was followed by three statements corresponding to three different caregiver teaching strategies: discussion (e.g., “The caregiver and I [interventionist] discuss the problems the child is having during grocery shopping trips. We discuss different ways to make the trip go more smoothly, and the caregiver lets me know what would work best. No one is working directly with the child at this time.”); caregiver practice with feedback (e.g., “I [interventionist] go to the grocery store with the caregiver and child. I observe the shopping trip and provide feedback to the caregiver to help her improve the routine.”); and demonstration with narrative (e.g., “I [interventionist] go to the grocery store with the caregiver and child. While the caregiver observes, I demonstrate and explain strategies she should use while she is shopping with her child.”). Three of the six vignettes were followed by a question inviting participants to either indicate all teaching strategies they would use (hereafter, referred to as *likelihood vignettes*), and three were followed by a question inviting participants to indicate only the most likely teaching strategy they would (hereafter, referred to as *best choice vignettes*; see following paragraph for rationale for different types of vignettes).

For each of the first three vignettes, labeled likelihood vignettes, interventionists were asked "How likely are you to use the following strategies to instruct the caregiver?" Participants were provided a strategy representing each of the three types of explicit teaching methods (examples provided above), and they reported the degree to which they were *likely*, *a little likely*, or *not at all likely* to use *each* of the three separate teaching strategies. The likelihood vignettes

were designed to examine whether interventionists would consider use of multiple teaching strategies equally in a given situation. For the second three vignettes, labeled best choice vignettes, interventionists selected one of the three teaching strategies as the best choice. Interventionists were asked, "Which strategy are you *most likely* to use to teach the caregiver? Please select only ONE strategy." Best choice vignettes were designed to force interventionists to select one teaching strategy as most indicative of their teaching perspective in a specific context. Following each of the six vignettes, we asked early interventionists to indicate their experience in working on the specified child skill (i.e., *never, rarely, sometimes, frequently*); this information was used to address research question two.

Two types of items were developed to address the factors interventionists consider when teaching caregivers (research question three). First, for each of the three best choice vignettes, early interventionists were asked in an open-ended item to describe their rationale for their selection of their best teaching strategy. Second, early interventionists answered a single rank-ordering item in which they ranked four factors from *most important* to *least important* in terms of influencing their decisions about teaching caregivers. The four considerations were child level of ability, caregiver level of ability, caregiver level of knowledge, and content or task difficulty.

Lastly, interventionists answered 10 Likert-scale items about confidence in and frequency of teaching and barriers to teaching caregivers. They rated each item on a five-point Likert-scale (i.e., *strongly agree* to *strongly disagree*).

Results

Selection of Teaching Strategy

The first research question addressed which strategies early interventionists reported using to teach caregivers when targeting different child skills in various everyday activities and routines, which was assessed through the vignettes. Information is presented in Table 2 about responses for both the likelihood and best-choice vignettes. The table outlines the percentages of early interventionists who reported: the likelihood of using *each* of the three teaching strategies for each of the three likelihood vignettes (i.e., multiple strategies could be indicated as *likely*); and the selection of *one* teaching strategy as the best choice for each of the three best choice vignettes (i.e., only one teaching strategy could be selected).

Likelihood Vignettes. When teaching caregivers intervention strategies to promote puzzle completion during a playtime activity, early interventionists reported more likelihood of using demonstration with narrative or caregiver practice with feedback than with discussion. To teach caregivers intervention strategies to target sleeping concerns, discussion was the most likely teaching strategy. When teaching caregivers to address social participation skills during a playground activity, there was roughly equal likelihood of using each of the three teaching strategies.

Best Choice Vignettes. An equal percentage of early interventionists selected caregiver practice with feedback and discussion as best-choice strategies for teaching caregivers communication strategies in a meal-time routine. Early interventionists selected demonstration with narrative and caregiver practice with feedback as the best strategies to teach caregivers how to promote the skill of pulling-to-stand during a play activity. Discussion was the most selected best choice to teach caregivers strategies to promote positive behavior during a grocery shopping routine.

Experience and Selection of Teaching Strategy

For the second research question, both early interventionists' experience with teaching the targeted skill and years of experience in early intervention were examined in regard to teaching strategy preference.

Experience with target skill. We conducted chi-square analyses to determine whether there were significant differences for interventionists who selected a strategy as *likely/best choice* based on their reported experience in working on the vignette's represented target child skill. For example, were interventionists who reported more experience in working on communication more likely to select caregiver with practice as best choice than interventionists with less experience? For each of the six vignettes, we re-coded dichotomously each teaching strategy as to whether it was indicated as *likely* (i.e., for the three likelihood vignettes; *likely* equaled *yes* and *not likely* or *a little likely* as *no*) or *best choice* (i.e., for the three best choice vignettes; *yes* equaled the one strategy selected as best choice and *no* equaled two strategies not selected as best choice). Additionally, we re-coded dichotomously self-reported experience in focusing on the target skill, with *sometimes* or *frequently* as *more experience* and *never* or *rarely* as *less experience*. In the analyses, the degrees of freedom differ because of missing responses to the vignette items; although as stated in the method, a respondent must have completed 80% or more of the questionnaire to have remained in the sample. Because we conducted three chi-squares for each vignette (i.e., one chi-square for each teaching strategy: demonstration with narrative, caregiver with practice, and discussion), we applied the Bonferroni correction to correct for family-wise error and set our significant p value at .0167 ($p = .05/3$). In the interest of space considerations, we present the statistical results only for the significant outcomes.

Likelihood vignettes. In terms of experience with the targeted skill, the majority of early interventionists reported more experience in targeting fine motor skills in puzzle completion

(78.2%) and sleeping skills in bed-time and nap-time (68.0%), while slightly fewer than half (47.4%) reported more experience in targeting social skills. For all three likelihood vignettes, interventionists who reported more experience with each of the three skills were more likely to select demonstration with narrative for (a) puzzle completion, $\chi^2(1, 1505) = 55.74, p = .000$, (b) sleeping, $\chi^2(1, 1516) = 7.64, p = .006$, and (c) social skills, $\chi^2(1, 1829) = 33.60, p = .000$.

Interventionists who had more experience in teaching the targeted skill were more likely to select caregiver practice with feedback for sleeping issues, $\chi^2(1, 1518) = 9.84, p = .002$, and social skills $\chi^2(1, 1831) = 31.42, p = .000$, but not for puzzle completion. Less experienced interventionists were more likely to select discussion to teach caregivers to target social skills, $\chi^2(1, 1514) = 15.31, p = .000$, and sleeping issues, $\chi^2(1, 1829) = 16.28, p = .000$, but not for puzzle completion.

Best choice vignettes. The majority of interventionists reported *more* experience in working on communication (84.0%), pull-to-stand (66.2%), and behavioral skills (66.2%). However, only the pull-to-stand skill vignette had significant chi-square results. Interventionists who reported more experience with teaching the pull-to-stand skill were more likely to select demonstration with narrative, $\chi^2(1, 1510) = 29.27, p = .000$, while interventionists with less experience were more likely to select discussion as the caregiver teaching strategy, $\chi^2(1, 1510) = 38.18, p = .000$. Experience in promoting the specified skill was not associated with selection of caregiver practice with feedback in the pull-to-stand vignette or with any of the three teaching strategies in the vignettes focused on child's communication and behavior.

Experience in early intervention. We were interested in whether any patterns emerged when descriptively examining interventionists' teaching strategy selection by reported years of experience in early intervention. Interventionists reported years of experience categorically: 1

year or less, 2 to 4 years, 5 to 9 years, 10 to 14 years, and 15 or more years. Specifically, we were interested in whether interventionists with more years of experience working in early intervention would select a particular teaching strategy (e.g., caregiver practice with feedback) across more vignettes than interventionists with fewer years of experience. In order to determine general teaching strategy preference (across all six vignettes), we first calculated a sum for each of the three teaching strategies based on the six vignettes. For the likelihood vignettes, a *likely* response equaled two points, a *little likely* equaled one point, and *not at all likely* equaled zero points; for the best choice vignettes, the strategy selected as the best choice received two points with the non-selected strategies equaling zero. Thus, each teaching strategy had a total sum which ranged from 0-12 points. Descriptive statistics for each category of years of experience in early intervention are presented in Table 3. Although no inferential statistics were computed, there is a clear pattern that interventionists with more years of early intervention experience selected demonstration with narrative less frequently than interventionists with less experience. Caregiver practice with feedback and discussion remained relatively stable across different categories of experience.

Factors Considered When Teaching Caregivers

To address the third research question, we analyzed a single rank-ordered item and the open-ended responses, following the three best-choice vignettes, where interventionists described their rationale for selecting a specific teaching strategy.

Single rank-ordered item. Interventionists ranked four factors, from most important to least important (i.e., 1 as most important to 4 as least important), which the authors identified from previous work (Fleming et al., 2011) as key factors of consideration when selecting strategies to teach caregivers. Included was caregiver level of ability, child level of ability,

caregiver level of knowledge, and task difficulty. Caregiver level of ability was ranked as most important by approximately half of early interventionists (52.7%). Content or task difficulty was ranked as most important by the lowest percentage of interventionists (4.3%). Child level of ability and caregiver knowledge were ranked as most important by 29.6% and 15.1% of interventionists, respectively.

Open-ended responses to best choice vignettes. An open-ended prompt for the three best choice vignettes allowed respondents to describe their rationale for selecting one specific teaching strategy as their “best choice” (i.e., “briefly explain why you chose this strategy”). A randomly identified subsample of 15% of open-ended responses was selected for each of the three teaching strategies for each of the three best choice vignettes (e.g., demonstration with narrative for communication, demonstration with narrative for gross motor skills, demonstration with narrative for behavior) to identify any common themes, or factors, describing interventionist selection of teaching strategies. These nine sets of open-ended responses were then combined for each caregiver teaching strategy resulting in three categories (i.e., demonstration with narrative, caregiver practice with feedback, and discussion) that included all open-ended responses for that strategy.

The first author (Reviewer A) and a research assistant (Reviewer B) then independently read each running list and identified emerging themes (cf. Crabtree & Miller, 1999). Reviewers A and B then discussed the emerging ideas and reached consensus. Three themes emerged from all three of the strategy lists, which we labeled as *universal themes*. These universal themes were interventionist preference, caregiver preference, and use of combination of strategies. One theme (i.e., understanding family needs) emerged for both caregiver practice with feedback and discussion. Three themes emerged that were specific to caregiver practice with feedback, two

for demonstration with narrative, and one for discussion. These 10 themes were then used by Reviewer B to code all of the randomly selected open-ended responses.

Multiple ideas expressed in one open-ended response were coded into multiple themes. For example, the response “I feel by allowing parent to do it and me explaining would be a better way for parent to learn. If parent continues to need help, I would demonstrate” was coded as interventionist preference and use of combination of strategies. Interventionists' responses were coded in a separate database which did not contain the early interventionist's teaching strategy selection. In this way, reviewers were blind to the teaching strategy selection associated with the open-ended response/rationale to prevent reviewers from coding responses associated with demonstration with narrative differently than caregiver practice with feedback or discussion.

Interrater reliability was established by having Reviewers A and B individually code a randomly selected set of statements representing 20% of the originally selected responses for each teaching category. Overall, interrater agreement was 92.4% (80-98.3% per theme).

Universal themes. Interventionist preference, caregiver preference, and use of a combination of strategies were themes that emerged as reasons explaining the selection of all teaching strategies. Responses coded under interventionist preference typically provided little to no rationale for the teaching strategy selection other than the success of the strategy or the interventionist's comfort with using it. One interventionist stated, “I think that the technique I chose is most likely to have success,” while another interventionist reported, “It is one I am familiar with and use often.” Interventionists reported using strategies that caregivers preferred or responded to the caregivers' wishes. One interventionist who selected demonstration with narrative stated “I typically interact with the kids and that way the parents don't feel nervous as if I am watching and judging.” An interventionist who selected caregiver practice with feedback

explained, “Usually, the caregiver is more comfortable having the technique demonstrated first and then they practice the technique with the child while I observe and offer suggestions and reinforcement.”

Interventionists seemed reluctant to select only one strategy and explained that the strategy they selected was not the only teaching strategy that might be best used. Sometimes interventionists would describe using multiple teaching strategies globally. One interventionist stated, “I want the caregiver to be successful in his/her ability to know what his/her child wants. I would actually use a combination of all three strategies.” Other interventionists described situations in which one teaching strategy would be employed in one session, and if results were unsatisfactory to the interventionist or caregiver, a different teaching strategy would subsequently be tried in a separate session. Others tied two strategies together concurrently rather than simultaneously as explained, “I would probably start with this method [discussion], and then go on to going to the grocery store if the caregiver needed more support.” Another interventionist reported using caregiver practice with feedback and moving to demonstration with narrative as a second strategy, “I feel by allowing parent to do it and me explaining would be a better way for parent to learn. If parent continues to need help, I would demonstrate.”

Themes specific to demonstration as a teaching strategy. Two themes emerged as explanations for selecting *demonstration with narrative* including (a) establishing success with the child and (b) caregivers’ increased likelihood of using the strategy after being modeled by the interventionist. Examples of the first theme include “I feel that parents often need to see your suggestions in action and working before they are willing to make time consuming changes” and “I try to begin the process of establishing the skill so that the child and parent have success and do not experience frustration.” The second theme reflected a perspective that caregivers are

more likely to implement an intervention strategy that they have seen demonstrated by the interventionist, as evidenced by the following response: “I find that by directly modeling it [communication strategy] to the parent, they feel more confident in carryover.”

Themes specific to caregiver practice with feedback as a teaching strategy. Three themes specific to *caregiver practice with feedback* were: (a) interventionist observes with specific focus in mind; (b) interventionist observes for the purpose of offering suggestions to the caregiver; and (c) interventionist empowers caregiver. For observing with a specific focus, interventionists mentioned observing the current strategies or the dynamics between the caregiver and child, such as “Watching the parent child relationship gives more insight to the situation” or “So I can see what strategies the caregiver is using and exactly what the problem is.” While interventionists emphasized the necessity of observing what is typically occurring, they also discussed observation as an assessment strategy. One interventionist reported, “I chose this to see the antecedents, behavior and consequences during this store routine. Then, once I observe the behavior and its triggers and maintaining factors, I would offer suggestions to improve this routine.” Interventionists who selected caregiver practice with feedback described caregivers as being empowered when they had opportunities to practice implementing intervention strategies. For example, one interventionist explained, “To build on what parent is already able to do so that she can see improvement, and making the parent feel successful in teaching her child.”

Theme specific to discussion as a teaching strategy. One theme about the interventionist’s availability to be physically present in the activity/routine context emerged as an explanation for choosing *discussion*. For example, one interventionist responded, “Most of the time I’m not there for meal times.” Logistics or timing presented barriers to being present during all activities/routines. Another interventionist explained, “I am generally not available at the

time that a parent might want to go to the store.” Interventionists also justified being physically present in activities/routines as not meeting caregiver expectations stating, “I think accompanying them [families] to the store is a bit intrusive” or “At this point I haven't had many parents express the desire for me to come [to the store] with them.” Another interventionist described:

The grocery store is often a stressful time for families. It's hard to focus on the behavior, shopping for needed items and getting new information for the child. By removing the stress and stepping back, hopefully the family can isolate one new strategy to try the next time at the store.

Themes specific to two teaching strategies. A final theme of understanding family's needs and building relationships with families emerged as an explanation for selecting both *discussion* and *caregiver practice with feedback*. One interventionist stated, “I think it is best to work together with the caregiver rather than to tell her what to do because she may know some things about the child I had not observed.” Another stated, “Initially, when dealing with a new concern, I like to make sure the family understands the available options and I try to help them choose a method that is going to work the best for their family structure.”

Teaching Caregivers: Confidence, Frequency, and Barriers

The fourth research question examined interventionists' comfort in and frequency of teaching and degree of perceived barriers to teaching caregivers. The final section of the questionnaire included ten Likert-scale items that respondents rated on a five-point scale, ranging from strongly disagree to strongly agree (coded 0 - 4, respectively). Items related to early interventionists' confidence in teaching (3 items), frequency of teaching (2 items), and barriers (5 items) perceived when teaching caregivers. Means, standard deviations, and percentages of

interventionists who expressed either agreement (*agree/strongly agree*) or disagreement (*disagree/strongly disagree*) for each item are provided in Table 4.

In terms of confidence in teaching caregivers, 48.6% disagreed that they were more comfortable teaching children than caregivers. For the two additional questions related to confidence, about the same percentage agreed and disagreed about (a) confidence in using demonstration versus caregiver feedback as teaching strategies and (b) amount caregivers learned from watching interventionist work with the child versus trying something out directly themselves. In terms of reported frequency of teaching caregivers, almost half (48.6%) disagreed that they spent more time teaching caregivers than working with children. Slightly less than half (41.3%) agreed that they taught a new strategy every session to the caregiver.

In terms of barriers, the majority of early interventionists disagreed that caregivers are defensive when given suggestions or feedback (63.6%) and agreed that most caregivers are interested in having feedback or suggestions provided to them (65.7%). More early interventionists disagreed that it was easier to teach better educated caregivers (42.1%) or harder to keep a child engaged in the visit when early interventionists spend time teaching caregivers (44%). However, about a third both agreed and disagreed with the ability to teach when no siblings were present during the visit.

Secondary analyses were conducted to examine the extent to which barriers differed for those who were more or less confident in their teaching or reported different frequencies of teaching caregivers. A composite score representing the extent of agreement or disagreement for all five barrier statements was computed (first reversing *Majority of caregivers are interested in being taught*) with each barrier being rated on a four-point scale. Thus, the range could run from 0 (all potential barriers reported as *strongly disagree*) to 20 (all potential barriers reported as

strongly agree). We created a dichotomous group for confidence in teaching caregivers, with interventionists who reported disagreement/strong disagreement with "I am more comfortable/confident teaching children than caregivers" as *not confident* ($n = 357$) and interventionists who reported agreement/strong agreement as *confident* ($n = 726$). We also created a dichotomous group for frequency of teaching caregivers, with caregivers who reported agreement/strong agreement with "I spend more time teaching caregivers than children" as *frequent teachers* ($n = 726$) and interventionists who reported disagreement/strong disagreement as *not frequent teachers* ($n = 337$). Independent sample t tests were then conducted to determine whether the interventionists with teaching confidence differed statistically in their perceived barrier total than the interventionists who were not confident; the same analysis was conducted comparing the interventionists who reported frequent caregiver teaching against the interventionists who reported infrequent caregiver teaching. Interventionists who reported less confidence in teaching caregivers reported significantly higher levels of barriers ($t = 14.71, p < .001$) than interventionists who reported more confidence, with reported barrier severity at 10.05 and 7.30, respectively. Interventionists who reported infrequent caregiver teaching frequency also reported significantly higher levels of barriers ($t = -6.01, p < .001$) than interventionists who reported more teaching frequency, with reported barrier severity at 8.82 and 7.63, respectively.

Discussion

Our study was designed to gain information about early interventionists' perspectives about teaching caregivers. Clear preferences for personal use of one specific strategy irrespective of skill being taught or activity/routine context were not found. Rather, early interventionists reported preferring the use of multiple strategies and a reluctance to have to choose one strategy or another as was required in the best choice vignettes section of the online

questionnaire. In fact, early interventionists' preference for use of more than one teaching strategy emerged as an explanatory theme (i.e., combination of strategies) for decisions made about use of each the three teaching strategies.

Interventionists provided differing reasons for their preferred selection of teaching strategies, as revealed by the qualitative analyses of the best choice vignettes. None of the 10 themes that categorized reasons for selecting a strategy were tied directly to the skill being taught (e.g., this strategy is most effective in teaching a caregiver to work with her child in pulling-to-stand). Additionally, emergent themes were not specific to individual vignettes, suggesting that the rationale for selecting a particular teaching strategy is not limited to the specific target skill or activity/routine context. Instead, the slight majority (6 out of 10) of themes were linked to a specific benefit for the caregiver, which may be a more salient dimension than skill or activity/routine context because building relationships with caregivers is a cornerstone of early intervention (Trivette & Dunst, 2005). For instance, interventionists reported that (a) caregiver practice with feedback is an avenue to empowering families, (b) discussion is a way to allow interventionists to understand families' needs and build relationships, and (c) demonstration with narrative enables interventionists to establish success with the child so that caregivers can witness the strategy as effective before committing to trying something different. Further research should be conducted about provider selection of particular teaching strategies with families and caregiver identification of optimal methods by which they prefer to be instructed and supported.

Preferences in teaching strategy choice occurred based on interventionists' experience with teaching the target skill. Early interventionists who self-reported less experience with a particular skill (e.g., eating) were more likely to use discussion as a caregiver teaching strategy.

Although we did not conduct inferential analyses, a pattern emerged that interventionists with fewer years of experience in early intervention more often selected demonstration with narrative than did interventionists with more years of experience. This pattern is consistent with that of Ridgley and Snyder (2010), who found that years of experience as a home visitor was related to the types of home visiting practices reported including caregiver teaching. Less experienced interventionists' reports of using demonstration with narrative may be related to the manner in which early interventionists are educated. During academic training, the focus is on teaching professionals about intervention strategies to *use with children* rather than adults (e.g., Campbell, Milbourne, Chiarello, & Wilcox, 2009). Until newer interventionists gain more experience with adults, they may be more comfortable using a strategy that "allows" them to be hands-on with the child.

Differences have been described between early interventionist-reported and actual use of practices, with most studies suggesting that early interventionists base self-reports on ideal rather than typical practices (e.g., Crais et al., 2006; McWilliam et al., 2000; Pappas et al., 2008). A number of barriers to providing caregiver teaching are reported in the early intervention literature and range from situations such as inadequate preparation for professionals (e.g., Bruder & Dunst, 2005; Campbell et al., 2009) to perceived caregiver characteristics (Fleming et al., 2011). In our study, a majority of early interventionists disagreed with three (of the five) barrier statements and agreed that a majority of caregivers were interested in being taught. For one statement about ease in teaching with siblings not present, agreement and disagreement percentages were equally split, suggesting that some early interventionists view sibling presence as a barrier and others do not. Early interventionists reported agreement with spending more time teaching children than caregivers, a seeming contradiction with their low reporting of barriers. One explanation may be

that early interventionists see themselves as professionally obligated to be hands-on with children during visits.

Limitations, Implications, and Future Directions

Four limitations require mention. First, our sample may not be representative of early interventionists practicing nationally. Our method of recruitment did not permit us to calculate a return rate. Also, although unlikely, it may be that our state contacts forwarded our participation request only to select individuals (e.g., those whom they believed would participate). Second, the psychometric properties of the questionnaire are unknown. Third, decisions about teaching strategies reported on the questionnaire were based on contrived situations. Vignettes were composed to be representative of an array of activities/routines and targeted skills. However, these scenarios may not have reflected specific interventionists' typical practice, thereby limiting the generalizability of these findings. For example, interventionists frequently reported in the open-ended items that they would use multiple teaching strategies. Thus, forcing them in the best choice vignettes to select only one teaching strategy may not be an accurate depiction of the practices they are using. Fourth, data were collected in this study via questionnaire rather than from direct observation of what early interventionists may do in actual practice. The extent to which interventionists who selected particular practices as preferred caregiver teaching strategies actually use these strategies in practice is unknown. Previous work suggests that interventionists' beliefs may represent their ideal and not their actual practice (e.g., Fleming et al., 2011).

Our questionnaire did not specifically address the effectiveness of certain teaching strategies in teaching caregivers. This is a needed direction in future research. For example, is demonstration with narrative more effective than caregiver practice with feedback in addressing select child skills (e.g., gross motor skills) or in certain circumstances (e.g., mealtimes)? Also, to

what extent does caregiver learning preferences influence effectiveness of teaching strategies?

Interestingly, early interventionists' reports of selection rationale did not yield a theme related to teaching effectiveness or to circumstances in which certain teaching strategies may be more effective. While some differences emerged based on experience in teaching skills and a descriptive pattern was evident based on years of experience in early intervention, additional factors, not explored in this study, may relate to characteristics of caregivers and children. Using focus groups or interviews with samples of caregivers would be one strategy for identifying the optimal methods by which caregivers prefer to learn.

The role of early interventionists must include teaching caregivers how to embed intervention strategies into everyday activities and routines in order to provide maximum child learning opportunities. The results of self-report studies about caregiver teaching suggest that early interventionists report agreement with and the use of teaching strategies even though studies based on observation show infrequent use of caregiver teaching. Early interventionists in this study reported undifferentiated use of teaching strategies, a preference for use of multiple strategies, and selection factors based on experience with teaching certain skills or in early intervention generally. Perceived caregiver benefit, or other general factors such as interventionist preference also influenced strategy selection. Understanding the caregiver teaching perspectives of early interventionists is an important component in developing the content of professional development experiences. It is likely to be well-designed professional development activities that facilitate early interventionists' beliefs, skills, and confidence so that they teach caregivers how to create optimal learning opportunities for their children within everyday family activities and routines.

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Table 1

Demographic Characteristics

Demographic Characteristic	Percentage (<i>n</i> = 1525)
Gender	
Female	98.0%
Ethnicity	
Caucasian	89.6%
Latino/Hispanic	4.3%
Black/African-American	2.6%
Asian	1.3%
Other	2.1%
Discipline	
Teacher (special instructor, early intervention or developmental specialist)	42.4%
Speech-Language Pathologist	24.9%
Occupational Therapist	13.3%
Physical Therapist	11.8%
Other	7.6%
Highest level of education	
Associate's degree	1.9%
Bachelor's degree	33.7%
Master's degree	61.0%
Doctoral degree	3.4%

Experience	In discipline	In early intervention
1 year or less	3.2%	8.0%
2-4 years	11.3%	22.0%
5-9 years	20.9%	27.4%
10-14 years	20.0%	19.1%
15 or more years	44.6%	23.4%
Hours work per week in early intervention		
5 hours or less		15.7%
6-10 hours		18.4%
11-15 hours		14.3%
16-20 hours		14.3%
21-30 hours		13.4%
More than 30 hours		20.4%
Geographical region ^a		
Northeast		27.3%
Southeast		26.0%
Midwest		24.8%
Southwest		10.6%
Western		11.0%

^a Northeast region consists of Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; Southeast region consists of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia; Midwest

region consists of Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; Southwest region consists of Arizona, Oklahoma, New Mexico, Texas; Western region consists of Alaska, California, Colorado, Hawaii, Idaho, Montana, Nevada, Oregon, Utah, Washington, Wyoming.

TEACHING CAREGIVERS

Table 2

Teaching Strategy Selection in Vignettes

Vignette	Caregiver practice		
	Demonstration with narrative	with feedback	Discussion
Puzzle completion during play ^a	73.3%	70.1%	7.7%
Sleeping issues during nap-time ^a	15.1%	32.1%	74.3%
Social skills during playground ^a	67.3%	60.0%	62.4%
Communication skill during meal-time ^b	17.7%	41.2%	41.1%
Pull-to-stand skill during play ^b	49.5%	47.5%	3.0%
Behavioral concerns during grocery shopping ^b	5.7%	31.4%	62.9%

^a Early interventionists indicated teaching strategy as “likely” versus “a little likely” or “not likely” for the vignette; multiple strategies could be indicated as “likely.”

^b Early interventionists forced to indicate one strategy as the best choice for the vignette.

TEACHING CAREGIVERS

Table 3

Descriptive Statistics on Strategy Selection Across Vignettes by Years of Experience in Early Intervention

Experience in early intervention	Demonstration	Caregiver practice	Discussion
	Mean (<i>SD</i>)	Mean (<i>SD</i>)	Mean (<i>SD</i>)
1 year or less	5.83 (1.95)	6.70 (2.39)	5.57 (2.04)
2-4 years	5.76 (2.02)	6.46 (2.48)	5.77 (2.14)
5-9 years	5.61 (2.11)	6.48 (2.41)	5.83 (2.13)
10-14 years	5.18 (2.11)	6.57 (2.33)	6.00 (2.17)
15 or more years	4.81 (2.13)	6.74 (2.33)	5.78 (2.13)

TEACHING CAREGIVERS

Table 4

Summary of Caregiver Teaching Confidence, Frequency, and Barriers

	Mean (<i>SD</i>)	% Agree (% Strongly Agree)	% Disagree (% Strongly Disagree)
Confidence in Teaching Caregivers			
More comfortable teaching children than caregivers	1.67 (1.09)	23.8 (5.2)	48.6 (13.8)
More confident demonstrating than giving caregiver feedback	2.03 (1.00)	36.4 (5.2)	33.4 (5.0)
Caregivers learn as much from watching interventionist work with child as they do from working with child directly	1.96 (1.04)	33.8 (6.3)	39.0 (5.4)
Frequency of Teaching Caregivers			
Spend more time teaching caregivers than working with kids	1.72 (1.00)	22.4 (5.1)	48.6 (7.2)
Teach new strategy every session to caregiver	2.18 (0.94)	41.3 (5.9)	27.5 (1.6)
Barriers to Teaching Caregivers			
Better able to teach when no siblings present	1.95 (1.13)	34.8 (8.3)	39.2 (9.3)
Majority of caregivers interested in	2.60	65.7	17.4

TEACHING CAREGIVERS

being taught	(0.98)	(13.8)	(2.2)
Harder to keep child engaged when	1.84	30.4	44.0
teaching	(1.00)	(3.4)	(6.1)
Easier to teach better educated	1.76	24.2	42.1
caregivers	(1.03)	(4.7)	(10.6)
Caregivers defensive when give	1.37	9.6	63.6
them feedback	(0.81)	(0.8)	(9.9)

Note. 0 = strongly disagree, 1 = disagree, 2 = neither disagree nor agree, 3 = agree, 4 = strongly agree. Percentage agreement is comprised of *agree* and *strongly agree*. Percentage disagreement is comprised of *disagree* and *strongly disagree*.