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Evaluation of the Ohio PLAY Project

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INTRODUCTION TO THE REPORT

The purpose of this evaluation study, as requested by the Ohio Department of Developmental Disabilities, has been to evaluate the implementation of the PLAY Project training model and its impact on children and families across the state of Ohio. The original RFP issued in July 2014 defined the following three areas as the evaluation focus:

1. The context and background of the PLAY Project model and training:
    a. Rise of incidence of Autism Spectrum Disorder (ASD) over the last two decades.
    b. Summary of the latest research on effective intervention strategies for toddlers diagnosed with ASD.
    c. The history of the PLAY Project and its implementation in Ohio.
    d. Factors that impact implementation/adoption of new intervention approaches.
2. Utilization of the PLAY Project model and training:
    a. Who was trained?
    b. Who continues to use the PLAY Project model and what defining characteristics are associated with continued utilization?
    c. Number of families served and identification of potentially underserved populations.
    d. Factors that contribute to ongoing implementation of the PLAY Project model.
    e. Factors that inhibit the ongoing implementation of the PLAY Project model.
3. Effectiveness of the PLAY Project model and training per ratings of:
    a. Family self-confidence and competence and continuing use of PLAY strategies over time.
    b. Early intervention service provider self-confidence and competence and continuing use of PLAY strategies over time.
    c. Administrator perceptions.

Context and background of the PLAY Model and Training

INCREASING INCIDENCE OF AUTISM SPECTRUM DISORDER

Autism Spectrum Disorder (ASD) is the fastest growing developmental disorder in the United States. Currently, one out of every 68 children has been identified with ASD (CDC, 2015), and the prevalence has more than doubled since 2002. Reliability studies of the Autism and Developmental Disabilities Monitoring (ADDM) Network tracking system found that while reliable, the numbers are likely a bit low – which suggests the prevalence could be higher than 1 out of 68 (CDC, 2015).

The Centers for Disease Control and Prevention have evaluated the tracking system used to estimate the prevalence of ASDs. These validation studies have identified some very important findings: (1) The tracking system is likely not over-estimating the prevalence of ASD; (2) Most children found to have an ASD by a clinical examination were also detected by the tracking system; (3) Since the CDC tracking

system missed 12 of 177 children who were examined and found to have an ASD, it is likely that some children with ASD are being missed in the count; (4) ASD occurs in all racial, ethnic, and socioeconomic groups, but is almost five times more common among boys than among girls; and (5) More children than ever before are being diagnosed with ASD. It is unclear how much of this increase is due to a broader definition of ASD and better efforts in diagnosis versus an actual increase in incidence; the rising number of children diagnosed with ASD is likely due to a combination of these factors (CDC, 2015).

Table 1. Prevalence of ASD.
Retrieved July 10, 2015, from http://www.cdc.gov/ncbddd/autism/data.html

Identified Prevalence of Autism Spectrum Disorder
ADDM Network 2000-2010
Combining Data from All Sites

Surveillance Year	Birth Year	Number of ADDM Sites Reporting	Prevalence per 1,000 Children (Range)	This is about 1 in X children...
2000	1992	6	6.7 (4.5 – 9.9)	1 in 150
2002	1994	14	6.6 (3.3 – 10.6)	1 in 150
2004	1996	8	8.0 (4.6 – 9.8)	1 in 125
2006	1998	11	9.0 (4.2 – 12.1)	1 in 110
2008	2000	14	11.3 (4.8 – 21.2)	1 in 88
2010	2002	11	14.7 (5.7 – 21.9)	1 in 68

The latest research suggests that signs of autism appear early, and that parents of children with ASD often become concerned before their child's first birthday (CDC, 2015). A diagnosis of ASD can often be made before age 2 (even as early as 14 months), and a diagnosis of ASD in toddlers has been shown to be stable, valid and reliable (Kleinman et al., 2008; Lord et al., 2006).

RESEARCH ON EFFECTIVE INTERVENTION MODELS FOR TODDLERS WITH ASD

In 2001, the US Department of Education asked the National Research Council (NRC) to convene a group, called the Committee on Educational Interventions for Children with Autism, to look at the scientific evidence behind effective early educational programs for young children (through age 8) with ASDs. The Committee reviewed the evidence available at the time and made the following recommendations for educating young children with ASD:

- Intervention begins early
- Intervention is intensive in hours
- Families are actively involved
- Staff are highly trained and specialized in autism
- Ongoing objective assessment of progress is included

- Curricula provide systematic, planful teaching
- Highly supportive physical, temporal and staffing environments
- Focus on communication goals and other developmental areas
- Include plans for generalization and maintenance of skills
- Individualize to address the wide range of children's strengths and needs
- Transitions are planned and supported.

These recommendations were primarily based on evidence from effective, comprehensive preschool programs for children with ASDs, not intervention for children under three. While research has shown that early intervention is beneficial, "early" has generally meant three years or older. Less is known regarding the effectiveness of such programs for children with ASD who are three years or younger. The increasing prevalence of children being identified as having an ASD, together with the decreasing age at the time of diagnosis, point to the need for a better understanding of the elements of effective interventions for toddlers with ASD.

A growing body of research suggests that programs for children under three should include parent involvement and engagement with their child, and that outcomes are related to (1) the intensity of that engagement and (2) starting as early as possible (Dawson et al., 2010; Rogers et al., 2012). In addition, research has demonstrated that parents, when coached weekly by professionals for 12 weeks, are able to learn and implement engagement strategies throughout the day in daily routine interactions with their toddler with ASD, and maintain those strategies over time (Dawson et al., 2010; Hardan et al., 2015; Vismara, Colombi & Rogers, 2009; Wetherby et al., 2014). Finally, research is now starting to show (1) that no particular approach (e.g., ABA versus a developmental-social-pragmatic curriculum) is superior to another, (2) that no particular approach is effective with all children with ASD, and (3) that each approach may impact different skills and behaviors. "Perhaps it is not the unique features of the models that most contribute to child gains; instead it is the common features of the models [i.e., adults engaging the child] that most influence child growth" (Boyd et al., 2013).

In 2014, Solomon and colleagues (Solomon et al., 2014) published a randomized controlled trial, utilizing the PLAY Project model with young children with ASD. The PLAY Project is a parent-mediated, intensive developmental intervention that incorporates the above recommended principles. The intervention emphasized length of engagement, initiation, and reciprocal social exchanges that incorporated these recommended principles into its design. Parents who participated in PLAY, compared to those whose children attended special education preschool services, showed significant changes in their ability to respond and engage, and PLAY children showed significant changes in shared attention and initiation.

THE HISTORY OF THE PLAY PROJECT AND ITS IMPLEMENTATION IN OHIO

The Ohio PLAY Project started in May 2011, when a four-day training was offered to fifty participants in Ohio. At that time, in order to become PLAY Project certified, trainees were required to complete twenty video reviews. Over that next year (May 2011-May 2012), in addition to three live webinars, three meetings were held in each of three regions to support trainees in their certification process. A PLAY Project supervisor attended all regional meetings, and Dr. Solomon facilitated the live webinars.

In September 2012, a second four-day training was offered in Ohio, to approximately the same number of participants. Once again, a series of three meetings was subsequently held in each of the three regions, along with one live webinar. In addition, an Advanced Workshop was developed and offered to trainees who were close to or had already completed the PLAY Project certification process. During the 2012-2013 year, a Project Manager was also hired, and Alfresco was launched. Alfresco is an online internal forum designed to support Ohio PLAY trainees. One year later, in September 2013, a third training was offered in Ohio, this time to a slightly smaller audience (36 participants). During the following nine months, three live webinars were hosted, as well as ten regional meetings across the State. Regional meetings were aimed at trainees already in the certification process. In addition, a second Advanced Workshop was offered, which included an additional requirement/incentive for trainees in that they had to have at least 15 videos reviewed and submitted to be eligible to attend.

Between April and June 2014, a PLAY workshop series was held, which was unrelated to the certification process and instead was a standalone series designed to increase exposure and raise awareness of the 4-day certification training. In June 2014, for the first time, a prerequisite webinar was held for the registered September 2014 trainees. At this time, the PLAY Project also unveiled new certification requirements. In August 2014, a Live Group Supervision Work Day was held to address issues involving technology, as well as to provide the opportunity for trainees to work towards new certification requirements.

In September 2014, a fourth 4-day training was offered in Ohio. Project staff continued to make changes to the training format and content, with a new emphasis on the “7 Circles” PLAY framework. The following month, the Project held another Live Group Supervision Work Day. Around this same time, Dr. Solomon and his colleagues published their initial findings from the first randomly controlled research project on the effectiveness of the PLAY Project. In November 2014, a booster training was offered, aimed at trainees who were 2+ years away from their initial training and were not yet certified. In addition, PLAY Project staff and/or Ohio PLAY supervisors facilitated one webinar, two Live Group Supervision Work Days, and an Advanced Workshop, all to support trainees in their certification efforts.

IMPLEMENTATION SCIENCE

The well-designed Solomon et al. (2014) study clearly has added to our knowledge of the effectiveness of parent-mediated intervention in the early years for young children with ASD. The evidence for PLAY, as demonstrated in the 2014 study, is strong: when implemented with fidelity, the PLAY model impacts both child and parent outcomes. The challenge of moving PLAY from a tightly controlled research setting to the “real world” of Ohio Part C Early Intervention is an example of what our field calls the “research to practice gap” (Cook & Odom, 2013).

“Implementation science” helps us understand how to bridge the gap between research and practice (Cook & Odom, 2013). The classic definition of “Implementation science” is “the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices [EBP] into routine practice, and, hence, to improve the quality and effectiveness of [health] services. It includes the study of influences on [healthcare] professional and organisational behaviour” (Eccles &

Mittman, 2006, p. 1). In other words, implementation science studies the conditions, procedures and processes that facilitate or hinder moving the EBP model or practice from a controlled research setting to the reality of everyday settings that can often be unpredictable and messy (Dunst, Trivette & Raab, 2013).

For the purposes of this evaluation of the Ohio PLAY Project, three concepts from implementation science are particularly important: (1) critical factors, (2) fidelity, and (3) the distinction between intervention practices and implementation practices.

(1) Critical factors. Moving an evidence-based model or set of practices from research to reality is complicated and complex, particularly without a "preexisting structure and support" (McHugo et al., 2007, p. 1279). Common barriers include factors related to the practice itself, the users and the real-world setting:

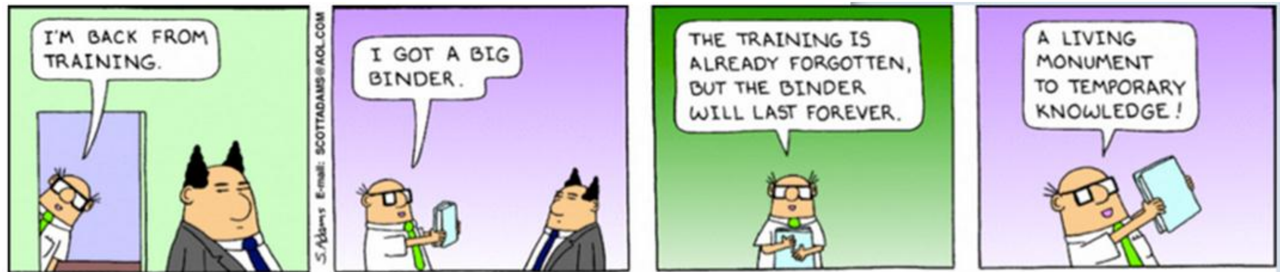
- How clearly the model, its components and specific practices are described;
- The complexity and "cost" (not only financial but also time and additional work) of the practice to be implemented;
- The relevance and "fit" of the model to the new environment;
- The time available, knowledge, skills and attitudes (e.g., readiness to change, mistrust of research) of the potential users;
- The available resources, culture, staffing, and administrative support in the new environment ;
- The ability of the new environment to sustain the practice over time; and
- The quality of the training and ongoing technical assistance provided to adopt the practice (Cook & Odom, 2013; Dunst & Raab, 2010; Kelly, 2012; Melnyk & Fineout-Overhold, 2012; Sykes & Temple, 2012; Welsh, 2012).

(2) Fidelity. Fidelity refers to the degree to which the model or practice is implemented in the new setting as intended (Harn, Parisi & Stoolmiller, 2013). The evidence has repeatedly shown that higher fidelity is associated with better outcomes, and even an evidence-based practice is likely to fail if implemented without fidelity (Franks, n.d.; Melnyk & Fineout-Overhold, 2012; Welsh, 2012). Important questions then emerge:

- What level of fidelity is high enough?
- What components are critical and what components, if any, can be adapted or omitted without impacting outcomes?
- Is there a fidelity threshold beyond which "more" fidelity does not lead to even better outcomes?
- How is fidelity maintained over time in order to prevent "drift"? (Harn et al., 2013; Kelly, 2012; Welsh, 2012).

(3) Intervention practices v. implementation practices. Dunst and colleagues (2009, 2010, 2012, 2013) make the distinction between intervention practices and implementation practices. *Intervention practices* -- in this case the PLAY model – are the "methods and strategies used by intervention agents

(e.g., teachers, clinicians, parent educators, etc.) to produce desired outcomes in a targeted population" (p. 68). On the other hand, *implementation practices* include "the methods used to teach or train others to use evidence-based intervention practices" with fidelity (p. 68). Why is this distinction important? Dunst and Trivette (2009) emphasize that **"no intervention practice, no matter what its evidence base, is likely to be adopted if the methods and strategies used to teach or train . . . practitioners . . . are not themselves effective"** (p. 164).



In their meta-analysis of implementation research, Dunst and Trivette (2012) identified three features/six characteristics of effective adult learning methods:

- *Planning*
  - Introduce: Engage the learner in a preview of the material, knowledge or practice.
  - Illustrate: Demonstrate the use of the practice to the learner.
- *Application*
  - Practice: Engage the learner in multiple opportunities to use the material, knowledge or practice.
  - Evaluate: Engage the learner in a process of evaluating the consequences of their application of the practice.
- *Deep understanding*
  - Reflection: Engage the learner in self-assessment of progress as a basis for identifying "next steps."
  - Mastery: Engage the learner in assessing his experience/strengths/weaknesses compared to some external set of criteria or conceptual framework.

"The more actively involved learners were in mastering new knowledge and practice, and the more instructors or trainers supported and facilitated the learning process, the better were the learner outcomes" (Dunst & Trivette, 2012,p. 85).

In other words, effective implementation practices (the methods used to train others in EBP) are characterized by

- Active learner involvement;
- Demonstrations of the practices;
- Multiple opportunities to use the practices;
- Repeated instructor/coach-learner interactions that
  - Provide feedback, guidance and support (the more immediate, the better); and
  - Promote learner reflection on and self-assessment of mastery (Dunst et al., 2013).

The evaluation framework

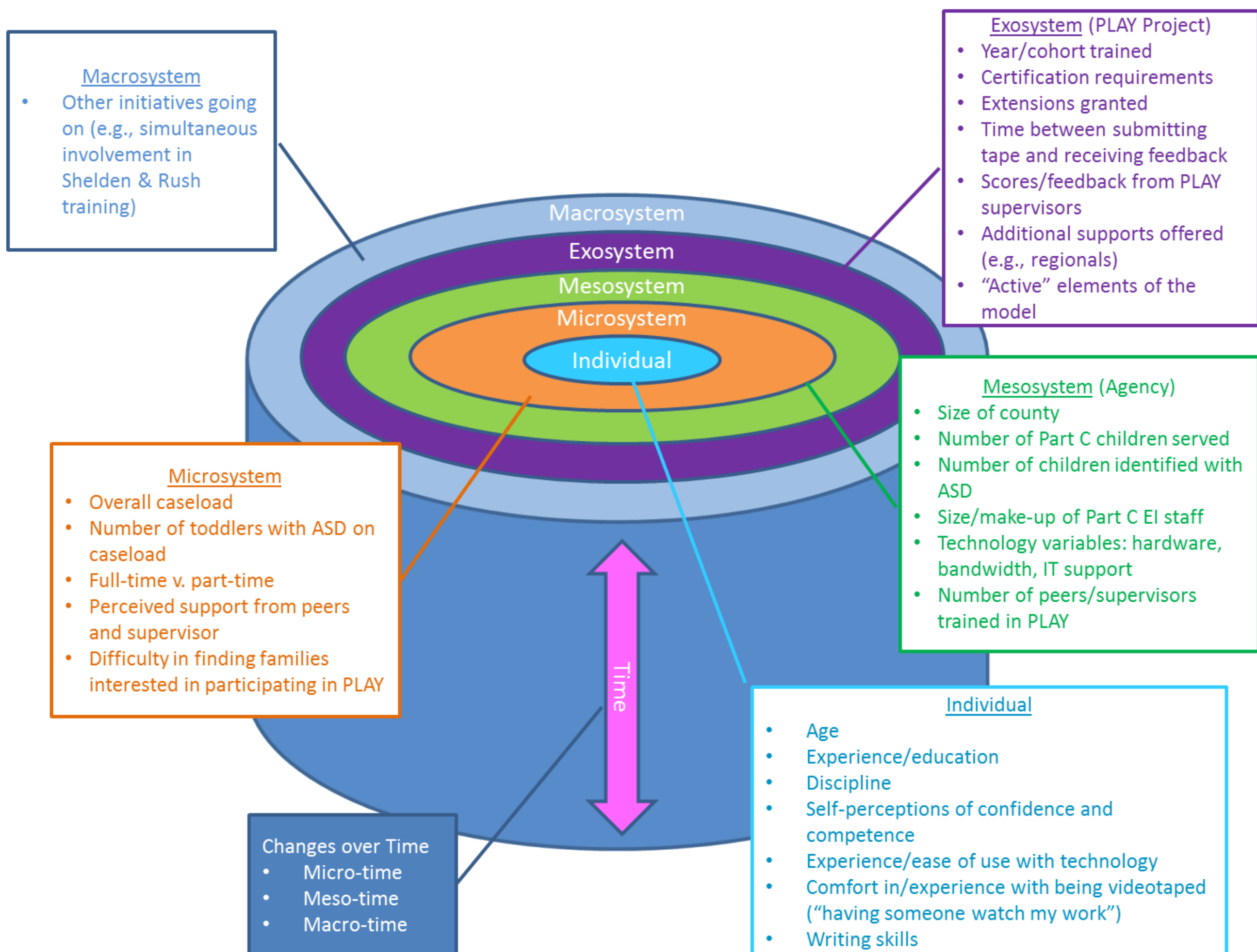
Kirkpatrick (1994) has proposed a useful four-level training evaluation model which we have used in previous program evaluations: 1) Reactions; 2) Learning; 3) Transfer; and 4) Results. This evaluation model proposes that evaluation of training should begin with Level One, and, over time, move sequentially through the remaining levels. The results of each level in turn serve as the foundation for the next level.

Level (dependent variables)	**Definition + Questions** http://www.businessballs.com/kirkpatricklearningevaluationmodel.htm Retrieved 10/28/14
1. REACTIONS	**Reaction evaluation** is **how the participants felt**, and their **personal reactions to the training or learning experience**, for example: *Did the trainees like and enjoy the training?* *Did they consider the training relevant?* *Was it a good use of their time?* *Did they like the venue, the style, etc?* *Level of participation.* *Ease and comfort of experience.* *Level of effort required to make the most of the learning.* *Perceived practicability and potential for applying the learning.*
2. LEARNING	**Learning evaluation** is the measurement of the **increase in knowledge or intellectual capability** from before to after the learning experience: *Did the trainees learn what was intended to be taught?* *Did the trainee experience what was intended for them to experience?* *What is the extent of advancement or change in the trainees after the training, in the direction or area that was intended?*
3. TRANSFER	**Behaviour evaluation** is the extent to which the trainees **applied the learning** and **changed their behaviour**, and this can be immediately and several months after the training, depending on the situation: *Did the trainees put their learning into effect when back on the job?* *Were the relevant skills and knowledge used?* *Was there noticeable and measurable change in the activity and performance of the trainees when back in their roles?* *Was the change in behavior and new level of knowledge sustained?* *Would the trainee be able to transfer their learning to another person?* *Is the trainee aware of the change in behavior, knowledge, skill level?* ***To what extent did the trainee implement what was taught with fidelity?***
4. RESULTS/ IMPACTS	**Results evaluation** is the **effect on the agency or environment** resulting from the improved performance of the trainee - it is the acid test. *Measures would typically be organizational key performance indicators and feedback from consumers.*

However, we needed to be able to explain the variations that we might see. For example,

- What factors, if any, are associated with people being more satisfied with the training?
- What factors, if any, are associated with progress toward/successful completion of the certification requirements?
- What factors, if any, are associated with the trainees implementing – and especially implementing with fidelity – the PLAY model?
- And, finally, what factors, if any, are associated with the impacts on families and the services provided by the agency?

To identify and understand these potential factors, we placed Kirkpatrick's four levels within Bronfenbrenner's (1979) ecological framework:



The steps in our evaluation

In order to optimize the reliability and validity of our findings, we used a multi-method approach:

- Multiple perspectives (families, service providers, administrators);
- Multiple data collection procedures (descriptive demographics, interviews, surveys, video analysis, case studies of high v. low utilization sites); and
- Multiple statistical analyses (qualitative approaches, descriptive statistics, correlative analyses of model utilization with growth measures).

Between October 2014 and December 2014, we scheduled multiple phone calls and meetings with the Ohio Department of Developmental Disabilities, OCALI, and staff from the PLAY Project in Ann Arbor in order to:

- Understand the history of the Ohio PLAY Project;
- Identify the changes in the training itself that have evolved over the four training cohorts;
- Locate the various types and sources of data that could be available to us;
- Obtain existing data and databases from DODD, OCALI and the PLAY Project in Ann Arbor;
- Examine the databases to determine what's available/missing/nonexistent; and
- Finalize our research questions and methodology.

We learned much from this initial exploration:

- The PLAY training has been constantly evolving, with changes in certification timelines and requirements.
- Data is housed in three different places (DODD, OCALI, and PLAY in Ann Arbor).
- Consistent data collection and data entry have at times been challenging due to the growth and staffing changes for the PLAY Project staff in Ann Arbor.

Our first step (upon which rested the success of any subsequent step) was to design a master database that was valid, reliable, and as complete as possible:

- Identify the components of the database (independent and dependent variables previously described).
- Reconcile the existing databases (Ann Arbor and OCALI) into the master database.
- "Clean up" any data that might be "messy" (for example, a column from an Excel spreadsheet that contains multiple variables rather than a single variable).
- Identify any additional missing current data: Where is it? Can we have access to it?

Our second step was to design the electronic surveys and telephone interview/focus group protocols. The questions in both the surveys and interview protocols gathered information regarding the relevant independent and dependent variables. Our target groups included Certified PLAY Consultants, Consultants-in-Training, Consultants-No-Longer-Active, families, Administrators/Supervisors, and the

five Ohio PLAY supervisors. *(A copy of each survey and interview protocol can be found in Appendix A.)* The table below describes each target group and how we planned to collect the information.

Target Group	Method	Description
Certified PLAY Consultants	Online survey	52 questions (closed and open-ended)
Consultants-in-Training	Online survey	53 questions (closed and open-ended)
Consultants-No-Longer-Active	Online survey	Version 1: 53 questions (closed and open-ended) Version 2: 16 questions (closed and open-ended)
Families	Telephone interview	36 questions
Administrators/Supervisors	Online survey	53 questions (closed and open-ended)
Ohio PLAY Supervisors	Telephone interview	15 open-ended questions
Certified and Consultants-in-Training	Virtual focus group as part of June 5 work day	10 open-ended questions

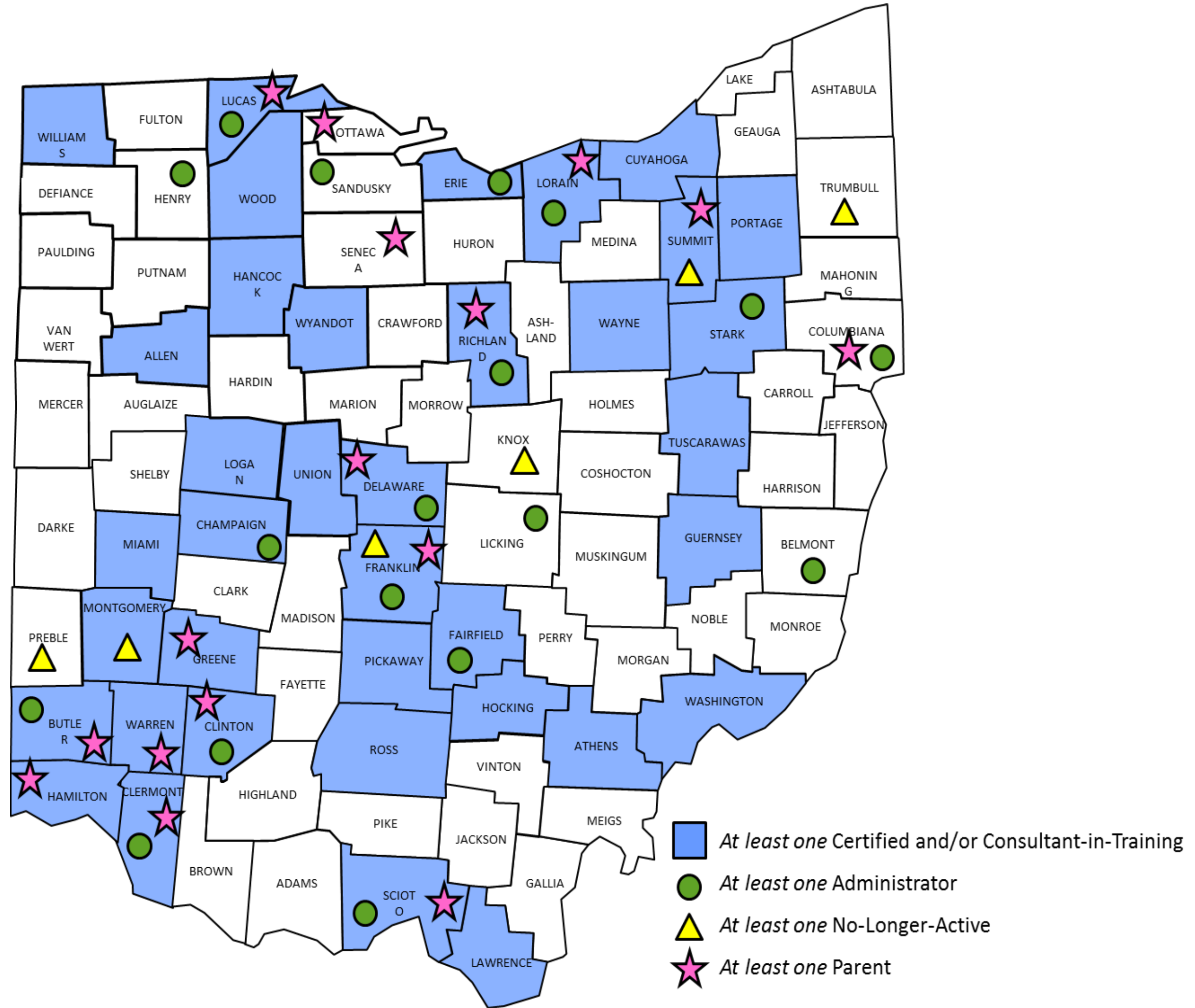
Our third step was data collection.

- Online surveys. We identified and contacted via email four groups of training participants (Certified, In-Training, No-Longer-Active, and Administrators/Supervisors) based on the information/databases kept by OCALI and the PLAY Project. The email contained a description of the evaluation project, a description of the online survey, and each group's specific SurveyMonkey link. We sent an average of three emails (initial plus follow-up reminders) to each group.
- Families. In order to have as unbiased a family sample as possible, we asked administrators/supervisors (rather than the trainees) to identify and recruit families for us to interview. Once we received the contact info for the family, we attempted to contact them via their preferred method (email or phone) to schedule a phone interview and recorded their responses online in SurveyMonkey.
- We sent regular email updates to the Administrators/Supervisors, thanking them for their ongoing support during the data collection process.
- We held a "virtual" focus group with five PLAY Consultants attending the June 5 workday in Columbus.
- We interviewed each of the five Ohio PLAY Supervisors individually by telephone.

By the end of the data collection process, our total sample (surveys, interviews and focus group) included **159** perspectives:

- Ohio professionals: **121**
  - Surveys: 116 responses
  - Focus group: 5 participants
- Ohio families: **33**
- Ohio PLAY Supervisors: **5**

The information represented PLAY experiences in 47 counties, as can be seen in the figure below.



The typical or "average" response rate to an online survey is approximately 33% (Fincham, 2008; Watt, Simpson, McKillop, & Nunn, 2002). In contrast, our response rate to the online surveys (with the exception of the No-Longer-Active group) was quite strong, ranging from 43% to 78%. Given that the No-Longer-Active group had either chosen or been asked to leave the certification process, their comparatively low response rate was not surprising to us. The table on the next page describes each survey target group, number of potential participants, number of responses, and response rate.

Target Group	Number of Participants Emailed	Number of Responses	Response Rate
Certified PLAY Consultants	41	32	**78%**
Consultants in Training	74	53	**72%**
No-Longer-Active	43	8	**19%**
Administrators/Supervisors	53	23	**43%**
TOTAL	211	116	**55%**

The 93 survey responses from the three groups of consultants (Certified, In-Training, and No-Longer-Active) were distributed across all four cohort trainings, giving us a broad perspective on the implementation of the PLAY training model over the last four years. In addition, the group of Consultants-in-Training was also nicely distributed across the entire "range" of number of certification requirements, from one person who had not yet submitted a video to those who had completed all of their requirements and had just been certified or were waiting to received official notification of their certification.

Cohort	Certified	In-Training	No-Longer Active	Total
2011	16	2	1	**19 (20.4%)**
2012	13	8	4	**25 (26.9%)**
2013	3	15	3	**21 (22.6%)**
2014	0	28	0	**28 (30.1%)**
TOTAL	**32**	**53**	**8**	**93 (100%)**

Of the 23 administrators/supervisors who responded to the survey, 15 (65%) reported attending at least one of the cohort trainings:

- 2 attended in 2011
- 4 attended in 2012
- 1 attended in 2013
- 2 attended in both 2012 and 2013
- 6 attended in 2014.

The survey participants as a group were experienced professionals, as can be seen in the following table:

	Certified Consultants	Consultants In-Training	Administrators/ Supervisors	No-Longer-Active
Average (Median) Years Experience Working Directly with B-3 & Families	17.1 (18)	12.5 (11..5)	8.6 (9)	14.8 (12)
Average (Median) Age	45.1 (43)	41.9 (39)	50.1 (50.5)	47.8 (51)

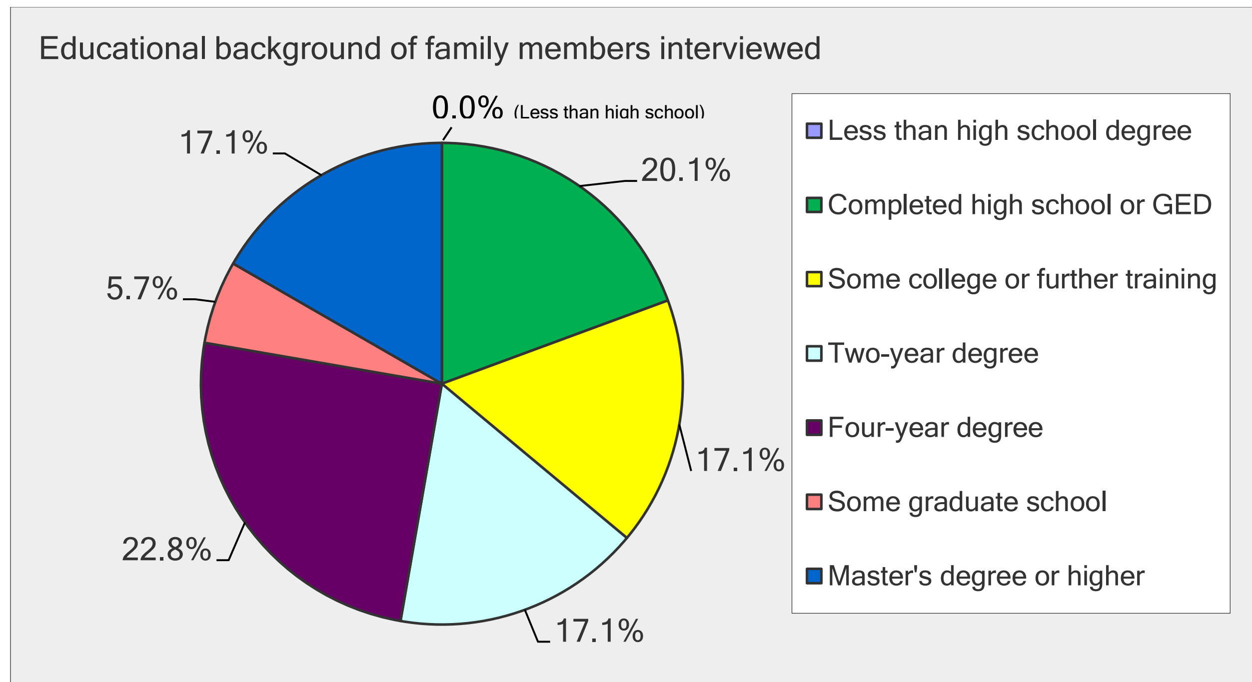
	Certified Consultants	Consultants In-Training	Administrators/ Supervisors	No-Longer-Active
Educational Level				
• **Bachelor's**	16.7%	34.8%	25.0%	60.0%
• **Bachelor's + some graduate**	13.3%	13.0%	20.0%	0.0%
• **Master's**	63.3%	50.0%	45.0%	20.0%
• **Working toward doctorate**	6.7%	2.2%	10.0%	20.0%
• **Doctorate**	0.0%		0.0%	0.0%
Discipline				
• **Education**	65.5%	66.7%	63.2%	50.0%
• **Speech Pathology**	10.3%	8.9%	0.0%	16.7%
• **Occupational Therapy**	10.3%	2.2%	10.5%	0.0%
• **Physical Therapy**	0.0%	0.0%	0.0%	0.0%
• **Social Work**	3.4%	6.7%	15.8%	33.3%
• **Nursing**	0.0%	0.0%	5.3%	0.0%
• **Other***	10.3%	15.6%	5.3%	0.0%

**Other primarily included respondents who categorized themselves as Developmental Specialists or Early Intervention Specialists rather than a specific discipline.*

In order to identify families to be interviewed, we emailed administrators/supervisors and asked them to provide us with the names of families who had agreed to be interviewed as part of this evaluation. We specifically invited the administrators/supervisors to reach out not only to families who were positive about PLAY, but also to families who might have either declined or chosen to leave PLAY at some point. We received names and contact information for 39 families, and were able to reach and interview 35 families, representing 16 counties; due to their own time constraints, one of the 35 families completed the questions online rather than through the telephone interview. In addition, one of the 35 families had experienced intervention from two different PLAY Consultants, and volunteered to respond to the questions twice, since her experiences were different between the two consultants.

Twenty-seven of the 35 families, or 77%, reported that their child had received a formal diagnosis prior to starting PLAY: 74.1% of the children had received a diagnosis of ASD, followed by 11% with a language delay, 11% with developmental delay, and 4% other.

The family members interviewed were primarily mothers (91.4%), but we also talked with two fathers and one foster mother. The average age of the interviewees was 34.7 years, and their educational backgrounds were quite diverse, as can be seen in the table on the next page.



Our fourth step was the data analysis itself.

A. Quantitative methods: The data from the online surveys were imported into SPSSv23.0 software for analysis purposes. Descriptive statistics for numeric measures included mean (SD), median, and minimum to maximum range values. If interval values were reported, e.g., 2-3 years of supervisory experience, then the median value was imputed, i.e., 2.5 years of supervisory experience. For truncated or right-censored numeric data, e.g., age over 60 years, the largest known value was imputed, i.e., age 60 years. Frequencies and percentages per non-missing data were presented for categorical measures. Responses were summarized for each survey question both overall and also by cohort when samples sizes permitted in order to determine consistency of the responses across the training cohorts. (Complete quantitative results are presented in Appendix B.)

In our initial proposal, we also had planned to look closely at the amount of time needed to complete submission milestones to determine if the changes being made by the PLAY Project across cohorts were having an impact on certification completion rate. By applying Kaplan-Meier curves to the participant/ submissions database provided by the PLAY Project, we hoped to determine whether or not the rate of video or other submissions counting toward the requirement of 20 total submissions was progressing more rapidly for the more recently trained cohorts. However, as we looked more closely at the existing PLAY data, we observed several factors that made that database unreliable: (1) a number of trainees were regarded as certified but yet were found to have had fewer than the 20 submissions recorded in the database; (2) inaccuracies or missing data regarding the order of submissions and the time they were completed made it impossible to determine the rate of completion; and (3) measurement of the date of certification was recorded only by year rather than month/year, which made it impossible to determine whether the participants attained

certification within the allotted two year interval based on the PLAY database. For these reasons the effects of recent changes on the format of submissions are unfortunately indeterminable.

B. Qualitative methods were used to analyze responses to the open-ended items from the electronic surveys and phone interview protocols. Content analysis was used to identify, code and categorize transcriptions of the interview data to help us understand more deeply the independent variables, the dependent variables, and the connections among them (Lincoln & Guba, 1985; Patton, 1990). The critical qualitative issue of trustworthiness was addressed through six methodological strategies (Brantlinger, et al., 2005; Lincoln & Guba, 1985; Patton, 1990): 1) Triangulation, i.e., collecting data from multiple sources at multiple times using multiple methods; 2) Investing sufficient time during data collection; 3) Collaborative work, i.e., more than one person collecting and analyzing; 4) Peer debriefings between the collaborators; 5) "Thick description," i.e., presenting solid descriptive data in the results so that readers can make their own judgments about the transferability of the data; and 6) Formal member checks, i.e., the process of sharing data, findings and interpretations with the participants so that they can provide feedback on the credibility and accuracy of the findings and interpretations (which we did during the June 5 focus group, with some Consultants-in-Training, and during the telephone interviews with the Ohio PLAY supervisors).

The evaluation findings

THE PROCESS OF BEING TRAINED

Choosing PLAY. Early in the online surveys we asked an open-ended question of participants: *I participated in this PLAY opportunity because . . .* As we analyzed and coded the responses, we saw the same patterns emerging in both the Certified Consultants and the Consultants-in-Training groups. The majority of responses fell into two categories: *expand my expertise* and *better serve families with children on the spectrum*. Less frequently identified reasons were *wanted to know more about PLAY*, the fact that the training was *free*, and *supervisor suggestion/directive.* Several participants explained that they saw this as a chance to shift their model of early intervention – a shift from ABA or from an eclectic, less planful approach to early intervention. The majority of Administrators/Supervisors reported that they encouraged their staff to participate in the PLAY Project with the intention of *lessening the gap in ASD services* in their community.

"I WANTED TO PROVIDE A SPECIFIC INTERVENTION METHOD THAT WAS A TOTAL PACKAGE. PRIOR TO THE PLAY PROJECT, I FELT LIKE I TOOK BITS AND PIECES OF DIFFERENT INTERVENTION APPROACHES OR WAS TEACHING SPECIFIC PLAY SCHEMES."

Participant evaluations of the four-day training. At the end of the initial four-day PLAY Project training, participants were asked to complete an evaluation form. The evaluation forms for the 2011-2013 cohorts were almost identical, while the evaluation form for the 2014 cohort changed significantly.

Participants in the 2011, 2012, and 2013 cohorts were asked to rate the training. Evaluation items focused on participant satisfaction with the overall PLAY Project model, the explanation of PLAY components, the training materials provided, assessment measures reviewed, and video reviews.

Participants were also asked to rate their perceptions of the overall training experience e.g., usefulness/relevance to their work, quality of discussions, etc. Participants rated each of these items on a 1-5 Likert scale. The 2014 participant evaluation form focused to an even greater extent on participant satisfaction, and the format was quite different from previous cohorts. Examples of items included: "How would you rate the quality of the information presented?", "Was the training well organized?", and "Was the presented material current?" In 2014 the Likert scale responses were not anchored with numbers, but used statements only (e.g., Excellent, Satisfactory, Unsatisfactory, Poor).

Recommended practice suggests that Likert scale statements be consistent across questions. This was the case with the evaluation forms for the three 2011-13 cohorts. On the other hand, the 2014 Likert scale statements varied from question to question (e.g., some questions used an *Excellent-Poor* continuum, while other questions used a *Strongly Agree-Strongly Disagree* continuum). In addition, some of the questions had responses on a positive-negative continuum (e.g., *Excellent* as the first point on the scale), while other questions had responses on a negative-positive continuum (e.g., *Strongly Disagree* as the first point on the scale), also inconsistent with recommended practice: although the questions themselves can be a combination of positive and negative statements, the response options should consistently remain positive→negative or negative→positive.

Regardless of the changes in the surveys, participant ratings of the individual items remained favorable across cohorts. Also, when asked if they would recommend the training, 86.5% of participants responded positively (range 84%-91%), with recommendation rates increasing each year the training was offered. The high ratings suggest that the majority of the participants were satisfied with the training. In addition, participants were asked two open-ended questions regarding their suggestions/comments and if they would provide a testimonial. Examination of these open-ended comments revealed similar themes across cohorts. Regardless of the training year, the majority of comments fell into these themes:

- The quality of training was excellent and I was grateful to attend.
- The content of the PLAY Project will be applicable to my work with children and families.
- Compliments to the PLAY Project staff.
- I'm looking forward to getting started.

> *"I have never been to a seminar in which the speakers so obviously cared at a human level and also had mastered research techniques. This inspired me at the 'heart' and 'head' level. I feel that I came to this as a 'good player', but now I have a framework and words to describe my approach."*

The information from the four-day participant evaluation forms answers the first question posed by Kirkpatrick (1994): D*id they like it?* Clearly the answer is *YES*, and that they were excited and inspired by the four-day training. But what did they learn and how well did they learn it? Although we did see training objectives listed on the PLAY Project website, we are unsure if specific learner objectives were provided for participants. The participant evaluation forms did not contain any mention or measurement of participant learning objectives, nor could we find specific learning objectives in the manual handouts. Learner objectives describe what participants are expected to learn as a result of the training and are an essential component in thorough evaluation. Without their inclusion in training evaluation efforts, it is difficult to draw meaningful conclusions about the effectiveness of training beyond participant satisfaction.

Reflecting back on the four-day training. In the online surveys, participants were asked to think back to the initial PLAY training and the extent to which the training provided a foundation to be successful in their PLAY Project knowledge and delivery. Administrators/Supervisors were confident in the foundation the training provided their staff, as were the Certified Consultants, who were trained primarily in the first two Ohio cohorts. However, the Consultants-in-Training, trained primarily in the last two Ohio cohorts, were less sure about the foundation provided in four specific areas: knowing how to choose families, knowing how to explain PLAY methods/techniques to families, knowing how to structure a home visit, and knowing what to do between visits.

Looking back, I think the initial training by the PLAY Project gave me the foundation I needed to be successful in . . .	
Administrators/Supervisors (N=15)	Yes
Knowing how to complete the certification requirements	100%
Knowing how to choose families that are a match for the PLAY model	93.3%
Knowing how to profile a child	100%
Knowing how to choose PLAY methods/techniques to fit a specific child	100%
Knowing how to explain PLAY methods/techniques to families	100%
Knowing how to structure a home visit	93.3%
Knowing what to do between visits	93.3%
Certified Consultants (N=32)	**Yes**
Knowing how to complete the certification requirements	96.9%
Knowing how to choose families that are a match for the PLAY model	90.6%
Knowing how to profile a child	96.9%
Knowing how to choose PLAY methods/techniques to fit a specific child	90.6%
Knowing how to explain PLAY methods/techniques to families	93.8%
Knowing how to structure a home visit	90.6%
Knowing what to do between visits	88%

Consultants-in-Training (N=53)	Yes
Knowing how to complete the certification requirements	94.3%
Knowing how to choose families that are a match for the PLAY model	81.1%
Knowing how to profile a child	94.3%
Knowing how to choose PLAY methods/techniques to fit a specific child	94.3%
Knowing how to explain PLAY methods/techniques to families	81.1%
Knowing how to structure a home visit	75.5%
Knowing what to do between visits	77.4%

Spending time in the certification process. Given the number of requirements, the PLAY certification process can be lengthy. We asked questions about the length of time it took/is taking to become certified, whether or not the participants were given an extension, and their perceptions of how long it was taking them. The length of time it took for Certified Consultants to complete the process varied widely, ranging from 8 months to 39 months, with the average being 19.3 months. Almost two-thirds of them had NOT required an extension in order to finish. The length of time it was taking Consultants-in-Training naturally varied by cohort. Those trained in the earliest cohorts had been working on their certification for more than two years, while the 2014 cohort had been working on their certification for 8 months. Whether or not a Consultant-in-Training had received an extension also naturally varied by date of cohort: the earlier the cohort, the more likely it was that the consultant had been given an extension. Eight percent of the Consultants-in-Training group were unsure if they had been given an extension or not.

The table below describes the groups' perceptions of the length of time they had spent or were spending in the certification process. Clearly membership in the various cohorts affected the perception of time. A large proportion of the Certified group and a majority of the Consultants-in-Training reported a larger time investment than they had anticipated.

How would you describe the length of time it took/is taking?	Certified				In-Training			
	2011	2012	2013	Total	2011-2012	2013	2014	Total
Longer than I expected	38%	54%		41%	100%	73%	37%	60%
About what I expected	62%	38%	100%	56%		27%	41%	29%
Less time than I expected		8%		3%			22%	11%

The administrators/supervisors responded similarly, with 41% perceiving that the certification process took longer than expected, 54.5% feeling that it was about what they expected, and only one person thought it was taking less time than expected.

Juggling their time during the certification process. The process of submitting a video/report for review requires several steps following a home visit: sitting down to review the video, writing the report, and

then submitting the video/report to the PLAY supervisor. We were interested in how much time each of those steps was taking.

- *Step One: The number of days that passed between the home visit and sitting down to review the video/write the report.* The range reported by both the Certified and the Consultants-in-Training groups varied from the same or next day up to 30 days. The average number of days that passed was 10.6 days for the Certified group and 11.8 days for the Consultants-in-Training, and were similar across cohorts.
- *Step Two: The number of hours spent reviewing a video and writing the report.* Both groups had participants who reported spending up to 16 hours in this task, with the average being 5.3 hours per report for the Certified group, and 5.5 hours for the Consultants-in-Training.
- *Step Three: The time between the visit with the family and submitting the video/report to the PLAY supervisor.* Although the recollection of the Certified group might have been affected by the passage of time since they were involved in the certification process, overall they appeared to be "speedier" than the Consultants-in-Training. In some ways, this finding makes sense, as the longer a consultant is taking to submit each video/report, the longer the certification the process will take, and the longer the Consultant will be "in training." Nevertheless, it is clear that it is unusual for a consultant to be submitting a video/report within two weeks of the home visit, which then makes it unlikely – given the reported length of time it takes for the PLAY supervisor to respond – that the consultant will receive feedback prior to the next home visit with the family. A second area of concern is how long it is taking for the Consultants-in-Training: a majority of that group report that a month or more elapses between a home visit and submitting the video/report to the PLAY supervisor.

How much time typically elapsed/elapses between the home visit and submitting the video/report to PLAY?	**Certified**	**Consultants-in-Training**
Less than one week	3.1%	4.1%
One week	15.6%	2.0%
Two weeks	37.5%	28.6%
Three weeks	18.8%	10.2%
One month	12.5%	28.6%
Six weeks	6.3%	4.1%
Two months		4.1%
More than two months	6.3%	18.4%

What might account for how much time elapses between a home visit and submitting the video/report? We then asked questions about work hours, caseload and how the participants juggled their time between workload and PLAY requirements during the certification process. Overall, the majority of both the Certified and the Consultants-in-Training group were working full-time, with the average hours per week being 36.3 for the Certified group and 35.2 for the Consultants-in-Training. Including the PLAY

families, the Certified group reported a median of 24 families on their caseload during the certification process, and the Consultants-in-Training reported a median of 22 families.

How did/do the consultants juggle their time during the certification process? The majority of both the Certified and the Consultant-in-Training groups were able to fit in at least some of the PLAY-related activities into their work hours. Nevertheless, approximately 1 in 10 of the participants had to complete those activities primarily on their own time.

How did/do you fit PLAY-related activities into your work hours?	**Mostly at Work**	**Sometimes as Part of Set Work Hours**	**Mostly on Own Time**
Certified	29%	61.3%	9.7%
In-Training	36.7%	51.0%	12.2%

The table below describes the breakdown of hours per week of work, number of PLAY families on their caseload, the hours spent on PLAY per week, and the number of hours participants spent in PLAY activities on their own time. The numbers demonstrate that the PLAY certification process requires a major time commitment, with the average being the equivalent of one work day each week. All the participants reported spending at least some time working on PLAY-related activities outside their work hours each week, and some were spending a significant number of hours on their own time.

	Total Hours Worked/Week	Average, (Median) # of PLAY Families on Caseload during Certification Process	Average, (Median) & Range of PLAY Project Hours/Week	Average, (Median) & Range of PLAY Hours on Own Time
Certified	36.3	6.2 (5)	8.5 (8) 2-20	3.7 (3) 1-10
In-Training	35.2	4.3 (4)	6.8 (5) 2-18	3.4 (2) 1-15

"I already have to work several hours on my current job duties outside of my work hours. Adding more PLAY project time outside work hours while still having a work-life balance is nearly impossible. It would really help if our supervisors worked with us to adjust our caseload or let us work on the video review reports during work hours. My caseload the past 4-6 months is the highest it has ever been, and unfortunately there are just not enough hours in the day for all of it." (Consultant-in-Training)

Despite the significant time commitment, the groups did not waver in their commitment to PLAY during the certification process:

During the certification process, were/are you confident that the PLAY model was/is consistent with . . .	**Certified**	**Consultants-in-Training**
Your own intervention philosophy?	100% YES	96% YES
Your agency's intervention philosophy?	93.5% YES	92% YES

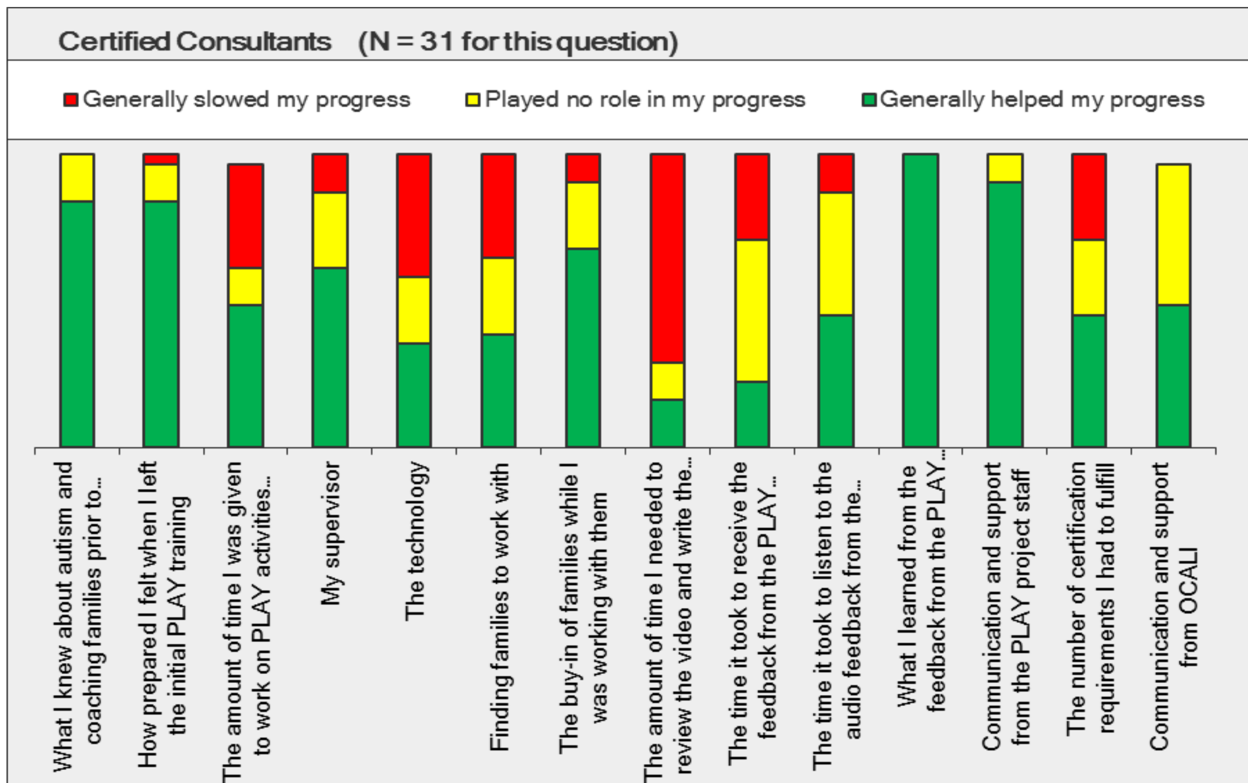
Once again, the administrators/supervisors also were committed, with 100% responding that the PLAY model was consistent with their staff's intervention philosophy, the agency philosophy, and their own personal philosophy.

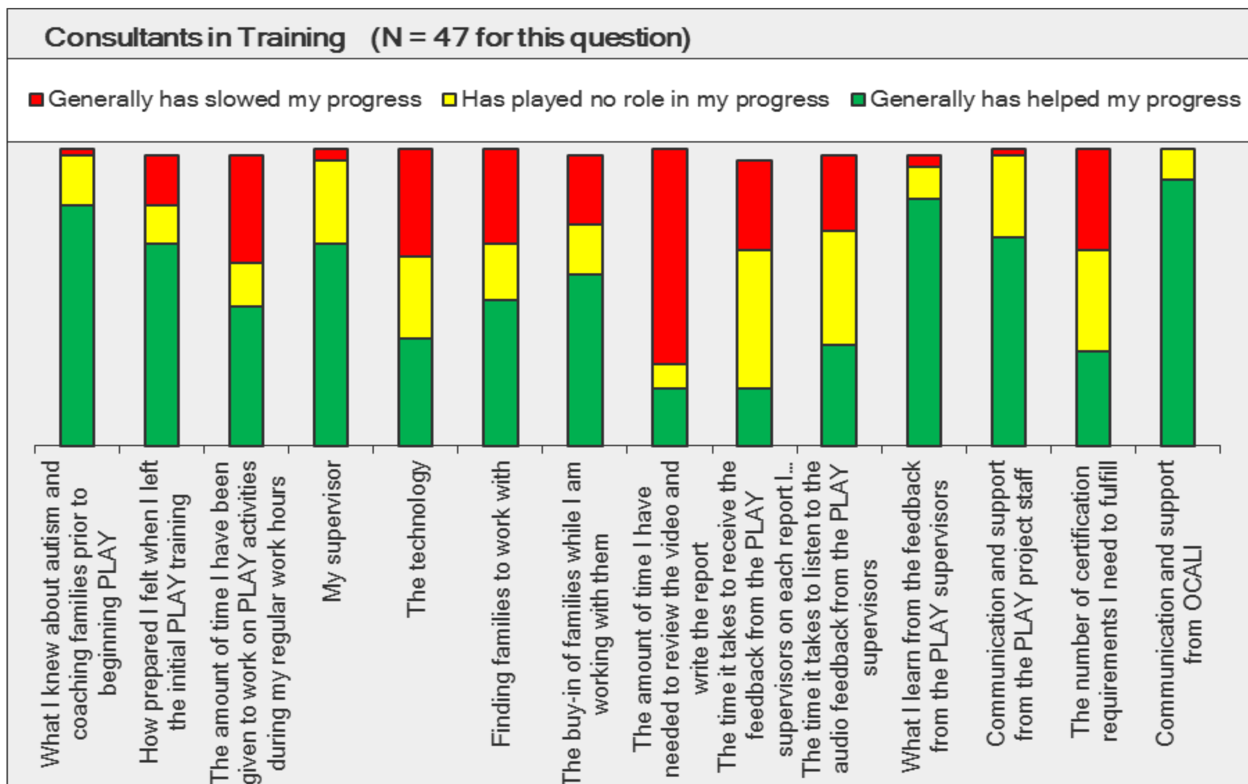
FACTORS THAT SUPPORTED AND/OR HINDERED PROGRESS TOWARD CERTIFICATION

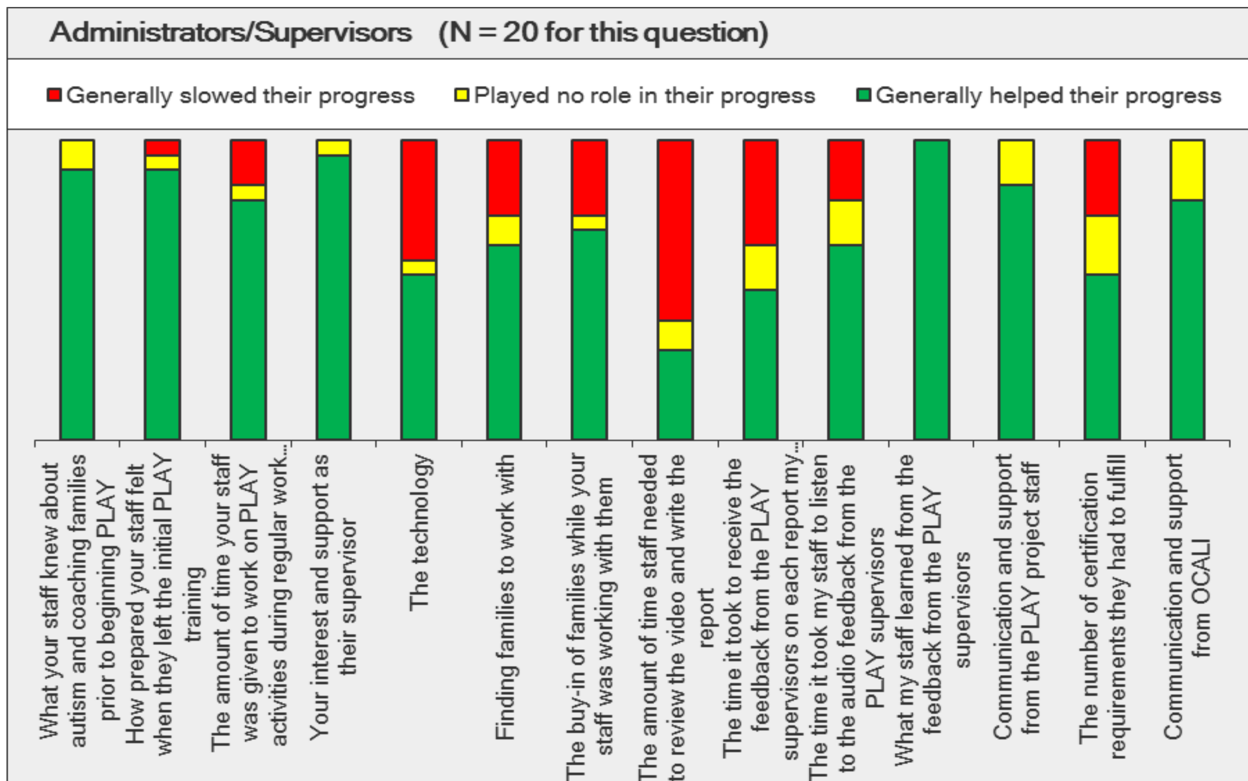
In developing our surveys, we identified the following list of factors that could possibly support progress toward certification, hinder progress toward certification, or play no role whatsoever:

- What I knew about autism and coaching families prior to beginning PLAY
- How prepared I felt when I left the initial PLAY training
- The amount of time I was given to work on PLAY activities during my regular work hours
- My supervisor
- The technology
- Finding families to work with
- The buy-in of families while working with them
- The amount of time needed to review the video and write the report
- The amount of time between submitting the video/PLAY report and receiving feedback from the PLAY supervisor
- The amount of time needed to listen to the audio feedback from the PLAY supervisor
- What I learned from the feedback
- Communication and support from the PLAY project staff
- The number of certification requirements
- Communication and support from OCALI

The survey results showed that some factors were primarily positive, a few were primarily negative, some were primarily either neutral or positive, but the majority of factors "worked both ways," i.e., could be either a support or a barrier depending on the situation.


Certified Consultants (N = 31 for this question)
Generally slowed my progress
Played no role in my progress
Generally helped my progress
What I knew about autism and coaching families prior to...
How prepared I felt when I left the initial PLAY training
The amount of time I was given to work on PLAY activities...
My supervisor
The technology
Finding families to work with
The buy-in of families while I was working with them
The amount of time I needed to review the video and write the...
The time it took to receive the feedback from the PLAY...
The time it took to listen to the audio feedback from the...
What I learned from the feedback from the PLAY...
Communication and support from the PLAY project staff
The number of certification requirements I had to fulfill
Communication and support from OCALI


Consultants in Training (N = 47 for this question)
Generally has slowed my progress
Has played no role in my progress
Generally has helped my progress
What I knew about autism and coaching families prior to beginning PLAY
How prepared I felt when I left the initial PLAY training
The amount of time I have been given to work on PLAY activities during my regular work hours
My supervisor
The technology
Finding families to work with
The buy-in of families while I am working with them
The amount of time I have needed to review the video and write the report
The time it takes to receive the feedback from the PLAY supervisors on each report I...
The time it takes to listen to the audio feedback from the PLAY supervisors
What I learn from the feedback from the PLAY supervisors
Communication and support from the PLAY project staff
The number of certification requirements I need to fulfill
Communication and support from OCALI



From the perspective of the participants, the amount of time it took to review the video and write the report was clearly viewed as the greatest factor that slowed their progress.

The following factors were seen as primarily supportive or supportive/neutral:

- what they knew about autism and coaching prior to the training,
- how prepared they felt by the four-day initial PLAY training,
- what they learned from the PLAY supervisor feedback, and
- the communication and support from the PLAY Project staff and OCALI .

In an earlier section of this report we have described the positive perceptions of the four-day training and the perceptions of how it prepared participants for what was to follow. In response to specific survey questions about the PLAY supervisor feedback, 84% of the Certified Consultants and 72% of the Consultants-in-Training rated the helpfulness of the PLAY supervisor feedback on their reports as *More Great Than Not* or *Usually Great*. With regard to the communication and support from PLAY, 100% of the Certified consultants and 90% of the Consultants-in-Training, rated the overall helpfulness of the PLAY project staff and PLAY supervisors as *More Helpful Than Not* or *Very Helpful*.

Factors such as (1) the technology, (2) support from their administrators, (3) the amount of time they were given to work on PLAY during work time, (4) finding families, (5) the buy-in of families, (6) the time it took to receive feedback from the PLAY supervisors, (7) the time it took to listen to the audio feedback, and (8) the number of certification requirements received mixed reviews: for some

participants those factors “tipped the balance” toward completion, and for others those factors either played no role or slowed the certification process.

The technology. Since the PLAY certification process depends significantly on the use of technology, we asked specific questions about participant comfort with various aspects of technology, as well as their perceptions of various sources of support regarding technology. The responses indicated that comfort with technology increased over time, with each cohort having increasing numbers of those who either grew very comfortable over time or found the technology easy from beginning to end. Interestingly, the group of Certified Consultants rated their comfort level with technology more highly than did the Consultants-in-Training; up to one-fourth of the Consultants-in-Training continued to struggle. For both groups, the biggest challenges consistently were uploading the video/report to be reviewed and listening to the audio feedback from the PLAY supervisor; a small group of the Consultants-in-Training also continued to struggle with downloading the video from the camera to the computer and watching the video on the computer.

We also saw several trends in the helpfulness of different sources of technology support. In particular, the perceptions of the helpfulness of what participants were taught in the four-day training increased with each cohort. The most highly rated source of ongoing support was technology assistance from colleagues also going through the certification process, followed by help from their own agency technology staff.

Support from administrators. Given the time and efforts it takes to complete the certification requirements, support from administrators can work both ways: administrators can not only provide encouragement, but also allow their staff to be flexible with work hours and caseload – or not. Of the Certified Consultants and Consultants-in-Training who responded to the specific questions about their own administrator/supervisor, approximately three-fourths reported that their supervisor checked in with them, actively encouraged them, allowed them to be flexible with their hours and work schedule, and helped them find answers to their questions. The item receiving the lowest percentage of “Yes” in each group (although only a few percentage points lower) was the item about being allowed to be flexible with or reduce their caseload; this finding is not surprising given the federal Part C mandate about timely receipt of services, i.e., counties cannot allow children eligible for Part C to wait for services. The “flip side” to these positive findings is that overall there remained a fourth of the group of participants who reported that their supervisor did not consistently find ways to support them.

Finding families and the buy-in from families. Finding families proved to be a challenge for approximately one-third of the participants, regardless of whether they were Certified Consultants or Consultants-in-Training. Analysis of the 34 comments from the group who had encountered trouble finding families were grouped into three major categories:

- Finding families who "fit" the criteria, either due to the size of the county (small), the ebb and flow in the number of Part C children with ASD in their county, or having too many Consultants-in-Training who ended up competing for the available families who met the PLAY criteria;
- Families who weren't interested at all because ABA had been recommended at the time of their child's diagnosis; and
- Families who weren't interested even after having PLAY explained to them or watching the introductory DVD, primarily due to their concerns about the time commitment or being videotaped.

"We had three people working on the certificate and we did not have many children with autism."

Keeping families involved also presented challenges, as approximately half of the entire group (54% Certified, and 45% In-Training) reported that at least one family had decided that PLAY would not be a good match for them. By far the most frequent reason given was the amount of time that families would have to commit. Less frequent reasons included not wanting to be videotaped, choosing to discontinue in order to pursue ABA, stopping when their child did not receive an ASD diagnosis, and "life" circumstances (mother's pregnancy, moving, custody issues, etc.)

Even when families started and stayed involved with the PLAY model, family buy-in created ongoing struggles for the group. We asked the participants to describe their perceptions of four aspects of family buy-in: willingness to be videotaped, family use of strategies between visits, reviewing the videos sent to them, and reading the reports.

	Certified		**In-Training**	
Overall, how would you describe the frequency of family "buy-in" to . . .	*Rarely* **or** *Sometimes*	*More often than not* **or** *Almost always*	*Rarely* **or** *Sometimes*	*More often than not* **or** *Almost always*
Being videotaped?	0%	100%	18%	82%
Use of strategies?	29%	71%	31%	69%
Reviewing the video?	52%	48%	37%	63%
Reading the report?	36%	64%	35%	65%

As the data suggests, approximately one-third of the entire group experienced challenges with family buy-in, and felt that their families were not consistently using the strategies, reviewing the videos or reading the reports.

Aspects of feedback from the PLAY supervisors. Although the participants strongly felt that the feedback they received from the PLAY supervisors was a factor that supported their progress toward certification, they still struggled with certain aspects of the feedback, i.e., the timeliness, the consistency, and the validity.

	Certified		In-Training	
Perceptions of feedback from the PLAY supervisors	Not great **or** *Sometimes great*	*More great than not* **or** *Usually great*	Not great **or** *Sometimes great*	*More great than not* **or** *Usually great*
Timeliness – how long participants had to wait	40.6%	59.4%	48.9%	51.1%
Helpfulness of the feedback	15.6%	84.4%	27.7%	72.3%
Consistency of the feedback across supervisors	43.7%	56.3%	54.4%	45.6%

In response to two more questions about feedback, 94% of the entire group of participants reported that they consistently listened to the audio feedback from the PLAY supervisors. In contrast, slightly more than half (59%) reported that they felt the scores they received on their reports were consistently a valid measure of the quality of their submission.

We asked participants to provide additional comments about the feedback from the PLAY supervisors, and we had 70 participants respond. By far the largest number of comments (almost half) had to do with inconsistency in feedback across supervisors. For example,

- "Very similar reports (of the same child) might receive two different scores from different supervisors."
- "At times I received contradicting feedback from one supervisor to the other in seemingly similar play scenarios. These were not glaring differences in the whole of the program but still made an impact on my outlook of the supervisory process."
- "Something more standardized would help so that the consultant is not apprehensive about what the next supervisor is going to change."
- "Some supervisors want less and take off for being too long. Others want more and take off for not having enough."
- "Sometimes I would incorporate one supervisor's suggestions into a report for another supervisor, and receive constructive criticism from the second supervisor about that element of my report. I still received valuable feedback, but it made report writing stressful!"

Another large area of "concern" was the supervisor score given to the reports submitted. Some participants reported that they had never or rarely received a score. When participants did receive a score, they really wanted to understand the reasoning behind the score:

- "Some supervisors referenced using a rubric to come up with a score. Other ones just said something like 'I'm going to give you a 3 . . . there wasn't enough feedback to help me understand the reason why one report was a 3 and another was a 4 or 5."
- "A 3 just seems to mean that I 'passed,' but doesn't help me know in WHICH AREAS I could do better."
- "I want them to give me scores like are explained in the fidelity manual. I want to know that in coaching I got a 5, but in my report I only got a 3 so that I know where to focus my next report and visit on. Otherwise, it might as well be a pass/fail because we don't really know where to bump it up."
- "Sometimes the feedback was very positive in the audio and only one area of improvement would be noted, but the score would be a 3. Oftentimes supervisors would say 'I'd like to give you a 4 but I have to give you a 3+.'"

As part of the comments about the report, several people shared their frustration with the supervisors basing the score and feedback on a very short video; for example, one Consultant-in-Training wrote,

> "The supervisors rate us based on their perspective of what is happening. We have so much more knowledge regarding the family because we are in the home. All that information may not be reflected exactly in the report but I feel that the feedback is subjective. I had one supervisor say, 'Exactly, you understand this child really well.' She used words like great and perfect and then rated me a 3."

Several comments captured the frustration with the timeliness of the feedback. These comments reflected the desire to have the feedback before the next visit with the family:

- "There were a few occasions that I did not receive feedback within 2 weeks (some as much as a month). That often made scheduling subsequent visits difficult because I wanted/needed feedback for families."
- "I wish I could have more often gotten the feedback before my next visit the families. I took extensive notes on the feedback, but it would have been better to have the most recent visit's feedback to make sure to put the suggestions into play at the next visit."

On the other hand, approximately one-fourth of the comments focused on the helpfulness of the feedback despite the inconsistencies:

- "The feedback was great! I appreciated hearing the perspectives and ideas from professional with varied expertise and experiences."
- "It does vary by individual style and on occasion I have gotten conflicting feedback. However, I appreciate the diverse feedback and think that it gives me great ideas. In this manner I am able to take what fits for me and implement it and use it to develop my own style."

- “I think it is a great concept and love the feedback, just hard when there are so many different backgrounds, and their focus may be on different areas of development.”
- “In the beginning it was difficult to hear negative feedback and sometimes I knew things that I was not able to communicate effectively to the PLAY supervisors. With practice I got better at communicating different challenges that I encountered to the supervisors. Overall I learned a lot from all of the PLAY supervisors. Each one taught me something new! I also learned to get thicker skin and take the criticism because it did make me a more effective PLAY consultant.”

Certification requirements. In addition to their perceptions of the length of the certification process (described earlier), the surveys also included two questions about certification requirements and the recent alternatives to the video/report submissions. Since most of the Certified Consultants were certified prior to the alternatives being made available, only 10% of the Certified group had the opportunity to participate in the alternatives, and they rated the online quizzes and group supervision/workdays as helpful. In contrast, almost 90% of the Consultants-in-Training indicated they had chosen the quizzes and/or work days as an option. Their perceptions of the alternatives were, for the most part, positive.

	Group Supervision Workdays	Online Quizzes
A waste of my time	1.9%	3.8%
Somewhat helpful	7.5%	13.2%
More helpful than not	20.8%	32.1%
Very helpful	32.1%	30.2%
Didn’t take advantage or skipped question	37.7%	20.8%

Thirteen participants submitted additional comments about the alternatives. The comments were mixed. Some participants liked the online quizzes. Some people were so close to finishing that they did not seek out the alternatives. Some people told us that they purposefully chose not to try the alternatives because they liked the feedback on the videos/reports they submitted to the PLAY supervisors. Two people tried the alternatives, but wished they hadn’t, as they found the supervisor feedback far more helpful.

One of the administrators/supervisors described the advantages and disadvantages of the alternatives to the video/report submissions:

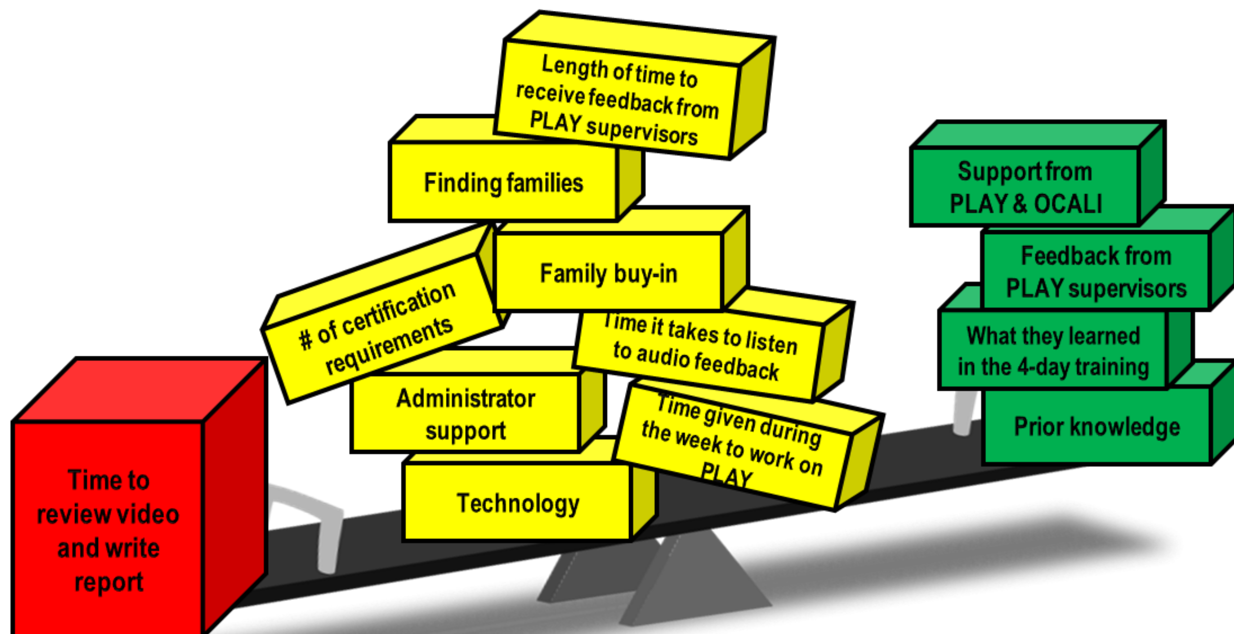
> “I would like to comment that, while I think reducing the number of video submissions will certainly result in certifying more consultants, I believe it is at the detriment of professional growth. Our staff who submitted 20 videos were more deeply entrenched in the study/perfection of their techniques over a period of nearly two years than our staff who only had to submit 10 [videos] and are able to complete their certification within a year. I am not criticizing our staff's abilities to implement PLAY Project. They have a great collaboration happening and support one another's learning process so they continue to gain

knowledge/skill/insight through collaborative self-training. However, that mentor feedback is valuable and worthwhile and should not be minimized."

Support from other colleagues. Although we did not include "support from other colleagues" in the question that focused specifically on the list of factors that support or hinder progress toward certification, we did ask two questions about colleagues. Three-fourths of the participants reported that they had colleagues going through the certification process at the same time, and almost 9 out of 10 respondents indicated that the presence of these colleagues was very helpful and "kept them going." The rest of the participants felt that it didn't make much difference, and none of the participants chose the option of "not so helpful."

The perspective of the administrators/supervisors. We asked an open-ended question in the administrator survey*: As you've talked with your staff during the certification process, what is their #1 negative comment?* The responses, which could be grouped into three themes, were very consistent with what we heard from the consultants themselves: the time it takes, the struggles with technology, and difficulties with finding families and getting their buy-in. (We also asked a similar question about the #1 positive comment, which we include later in the discussion on impacts.)

In summary, many factors impacted progress toward certification. Some were seen as positive supports (below in green), one factor (below in red) was clearly and consistently seen as a major challenge, and the majority (below in yellow) could "tip the balance" either way for an individual making his/her way through the certification process.



THE QUESTION OF FIDELITY TO THE PLAY MODEL OF INTERVENTION PRACTICES

Since fidelity of implementation is a critical issue in moving evidence-based practices from a research setting to the "real world," we asked several questions about fidelity in each of the surveys, as well as in the telephone interview with families. In order to identify the key components making up the PLAY intervention model, we turned to multiple sources: Solomon et al. (2014), telephone interviews with PLAY project staff in Ann Arbor, and the PLAY training manual.

In the 2014 article describing the results of the PLAY RCT research study, the authors described components of the model in the methods section:

> *PLAY services consisted of a 3-hour monthly home visit for 12 months . . . One week before the first visit, parents were encouraged (but not required) to review the PLAY Project DVD and written orientation materials . . .During the visits, the primary caregiver providing the majority of play interaction was targeted for instruction, but all caregivers were welcomed to attend monthly sessions. Consultants trained caregivers/parents through coaching, modeling, and video feedback. During coaching, consultants helped parents identify their child's subtle and hard to detect cues, respond contingently to the child's intentions, and effectively engage the child in reciprocal exchanges. Parents were taught to provide appropriate developmental challenges to promote progress in the child's FDLs. During modeling, consultants played for 15 to 30 minutes with the child to demonstrate PLAY methods and techniques. During video feedback, the home consultant obtained a 10-minute representative sample of parent play, and the parent obtained a 5-minute representative sample of the home consultant modeling. A written analysis of the video, sent between visits, reviewed the parent-child and consultant-child video interactions, summarized the child's developmental profile, and recommended methods and techniques. The program was revised to address the child's evolving developmental profile . . . Consultants were available between visits as needed by e-mail or phone. Families were encouraged to engage their child in 15- to 20-minute play sessions and throughout daily for a total of 2 hours/day.* (Solomon et al., 2014, p. 478)

During the study, Solomon and colleagues addressed fidelity by having two PLAY experts independently conduct blind ratings of a random sample of consultant videos and reports according to the project's fidelity manual. Inter-rater reliability was at 100%. The consultants providing the intervention submitted 138 videos/reports (23% of the visits) for fidelity ratings; 97% of the videos/reports were rated as meeting the fidelity criteria. However, the specific criteria for fidelity were not described in detail.

The PLAY Training Manual shed additional light on the key elements of the project. In the section that includes the PLAY Project Home Consultant (PPHC) Fidelity Manual, these key elements are identified as part of the PLAY Project home visit:

- The video recording of the caregiver playing, the consultant playing, and the consultant coaching the caregiver;
- The write-up that includes estimated hours of intervention;
- The Video Review Form;
- Describing Comfort Zone activities, Sensory-Motor Profile, Functional Developmental Levels (FDLs), and activities/techniques/methods; and
- The Visit Suggestion Report.

In the PLAY Training Manual's License Agreement, participating agencies must agree to include these components of a home visit:

- Family receiving and reviewing the PLAY Project DVD;
- Half-day 3-hour monthly home visits or the equivalent;
- Sessions with 1/3 modeling, 1/3 coaching, 1/3 feedback;
- Following the Seven Circles;
- Use of videotape feedback following each session; and
- Written feedback provided following the visits using the specified format.

Based on the sources above, we decided on a final list of key components that would comprise fidelity to the PLAY model:

- Giving the family the PLAY Project DVD to review
- Scheduling monthly 3-hour visits or equivalent
- Using the assessment tools to create a unique profile for each child
- Using the intervention techniques and activities in the PLAY training manual
- Spending sessions in 1/3 modeling, 1/3 coaching, 1/3 feedback
- *Encouraging families to engage their child in short play sessions daily for a total of 2 hours/day, 15-20 hours per week*
- *Completing and leaving the Visit Suggestion Report with the family*
- Using video feedback following each visit
- Providing the family with a written report following each visit
- Using the written report format suggested in the PLAY training manual
- Periodically reassessing and revising the PLAY plan.

We actually struggled a bit to identify all of the key elements, as each source described different pieces and parts, and nowhere was there a single complete list of specific fidelity components. As a result, two components (in italics above) were not included in the first survey we sent out (Certified Consultants) but were added to the subsequent surveys.

In the online surveys, one group of questions addressed how the participants used the key PLAY components at different points in time: during the training, during certification, and post-certification (either what the Certified Consultants were doing or what the Consultants-in-Training planned to do once certified). We also asked participants to rate the importance of using each component in their work. A final question about fidelity asked participants to describe the reasons why they have not been able to use all the key elements of the PLAY model in the way that they were trained. (We also asked families to describe their perceptions of how the key components were implemented; those results will be discussed later in *The Family Experience* section.)

The first fidelity question that looked specifically at the key components asked participants to think back to the original four-day training:

During your initial training, the PLAY model was explained to you. To the best of your memory, were these PLAY components emphasized as critical to include as part of your work with each family?		Certified	In-Training
Giving the family the PLAY Project DVD to review?	***Yes***	**84.4%**	**71.7%**
	No	12.5%	18.9%
	Can't Recall	3.1%	9.4%
Scheduling monthly 3-hour visits or equivalent?	***Yes***	**90.6%**	**92.5%**
	No	6.3%	5.7%
	Can't Recall	3.1%	1.9%
Using the assessment tools to create a unique profile for each child?	***Yes***	**90.6%**	**86.8%**
	No	9.4%	5.7%
	Can't Recall	--	7.5%
Using the intervention techniques and activities in the PLAY training manual?	***Yes***	**96.9%**	**100%**
	No	3.1%	--
	Can't Recall	--	--
Spending sessions in 1/3 modeling, 1/3 coaching, 1/3 feedback?	***Yes***	**81.3%**	**63.5%**
	No	3.1%	19.2%
	Can't Recall	15.6%	17.3%
Encouraging families to engage their child in short play sessions daily for a total of 2 hours/day, 15-20 hours per week?	***Yes***	*Question*	**96.2%**
	No	*not*	--
	Can't Recall	*included*	3.8%
Completing and leaving the Visit Suggestion Report with the family?	***Yes***	*Question*	**96.2%**
	No	*not*	--
	Can't Recall	*included*	3.8%
Using video feedback following each visit?	***Yes***	**100%**	**90.6%**
	No	--	5.7%
	Can't Recall	--	3.8%
Providing the family with a written report following each visit?	***Yes***	**100%**	**98.1%**
	No	--	1.9%
	Can't Recall	--	--

During your initial training, the PLAY model was explained to you. To the best of your memory, were these PLAY components emphasized as critical to include as part of your work with each family?		Certified	In-Training
Using the written report format suggested in the PLAY training manual?	***Yes***	**96.9%**	**100.0%**
	No	3.1%	--
	Can't Recall	--	--
Periodically reassessing and revising the PLAY plan?	***Yes***	**78.1%**	**75.5%**
	No	9.4%	7.5%
	Can't Recall	12.5%	17.0%

For the most part, the participants recalled that these components were stressed as critical during the four-day introductory training. Nevertheless, no component received a 100% response of *Yes, I remember this from the training as being critical* from both groups, and in fact, three components (giving the family the DVD; spending the visit in 1/3 modeling, 1/3 coaching, 1/3 feedback; and periodically reassessing and revising the PLAY plan) were strikingly lower than the other components in terms of percentages of *Yes* responses.

We then asked participants to describe how often they included (Certified) or were including (In-Training) each of the elements during the certification process itself. In terms of fidelity, we were most interested in the percentage of people who answered "Almost always" for each key element.

During the certification process, how often did you include/are you including these components during your visits with your PLAY families?		Certified	In-Training
Giving the family the PLAY Project DVD to review?	*Rarely*	19.4%	28.6%
	Sometimes	19.4%	20.4%
	Often	22.6%	16.3%
	Almost always	**38.7%**	**34.7%**
Scheduling monthly 3-hour visits or equivalent?	*Rarely*	6.5%	8.2%
	Sometimes	6.5%	18.4%
	Often	25.8%	30.6%
	Almost always	**61.3%**	**42.9%**
Using the assessment tools to create a unique profile for each child?	*Rarely*	--	4.2%
	Sometimes	25.8%	22.9%
	Often	29.0%	25.0%
	Almost always	**45.2%**	**47.9%**
Using the intervention techniques and activities in the PLAY training manual?	*Rarely*	--	--
	Sometimes	--	--
	Often	9.7%	16.3%
	Almost always	**90.3%**	**83.7%**
Spending sessions in 1/3 modeling, 1/3 coaching, 1/3 feedback?	*Rarely*	--	8.2%
	Sometimes	6.5%	8.2%
	Often	45.2%	44.9%
	Almost always	**48.4%**	**38.9%**

During the certification process, how often did you include/are you including these components during your visits with your PLAY families?		Certified	In-Training
Encouraging families to engage their child in short play sessions daily for a total of 2 hours/day, 15-20 hours per week?	*Rarely* *Sometimes* *Often* ***Almost always***	*Question not included*	-- 6.1% 20.4% **73.5%**
Completing and leaving the Visit Suggestion Report with the family?	*Rarely* *Sometimes* *Often* ***Almost always***	*Question not included*	-- 12.2% 32.7% **55.1%**
Using video feedback following each visit?	*Rarely* *Sometimes* *Often* ***Almost always***	3.2% -- 16.1% **80.6%**	4.1% 8,2% 24.5% **63.3%**
Providing the family with a written report following each visit?	*Rarely* *Sometimes* *Often* ***Almost always***	-- -- 9.7% **90.3%**	4.1% 14.3% 16.3% **65.3%**
Using the written report format suggested in the PLAY training manual?	*Rarely* *Sometimes* *Often* ***Almost always***	-- 3.2% -- **96.8%**	2.0% 4.1% -- **93.9%**
Periodically reassessing and revising the PLAY plan?	*Rarely* *Sometimes* *Often* ***Almost always***	3.2% 12.9% 29.0% **54.8%**	6.1% 14.3% 40.8% **38.8%**

During the certification process, both groups were most consistent (although not at 100%) in using the PLAY manual techniques and the written report format. On the other hand, components such as giving the family the DVD to review, scheduling 3-hour monthly visits or the equivalent, using the assessment tools to create a unique profile, spending the sessions in 1/3 modeling/coaching/feedback, and leaving the Visit Suggestion Report were used far less consistently. (The fact that participants were not consistently periodically reassessing and revising the PLAY plan does make sense, since contact with families might be short-term in nature during the certification process.) We also saw some differences between the two groups: compared to the Certified group, the Consultants-in-Training group was less likely to report that they consistently (a) used video feedback and (b) provided the family with a written report.

We then asked two key fidelity questions with regard to post-certification practices. The first question focused on the IMPORTANCE of using the elements during PLAY work with families. The second question focused on the FREQUENCY of use: we asked the Certified group to describe how often they include the

components in their current work with families, and we asked the Consultants-in-Training to describe how often they planned to include the components once they were certified.

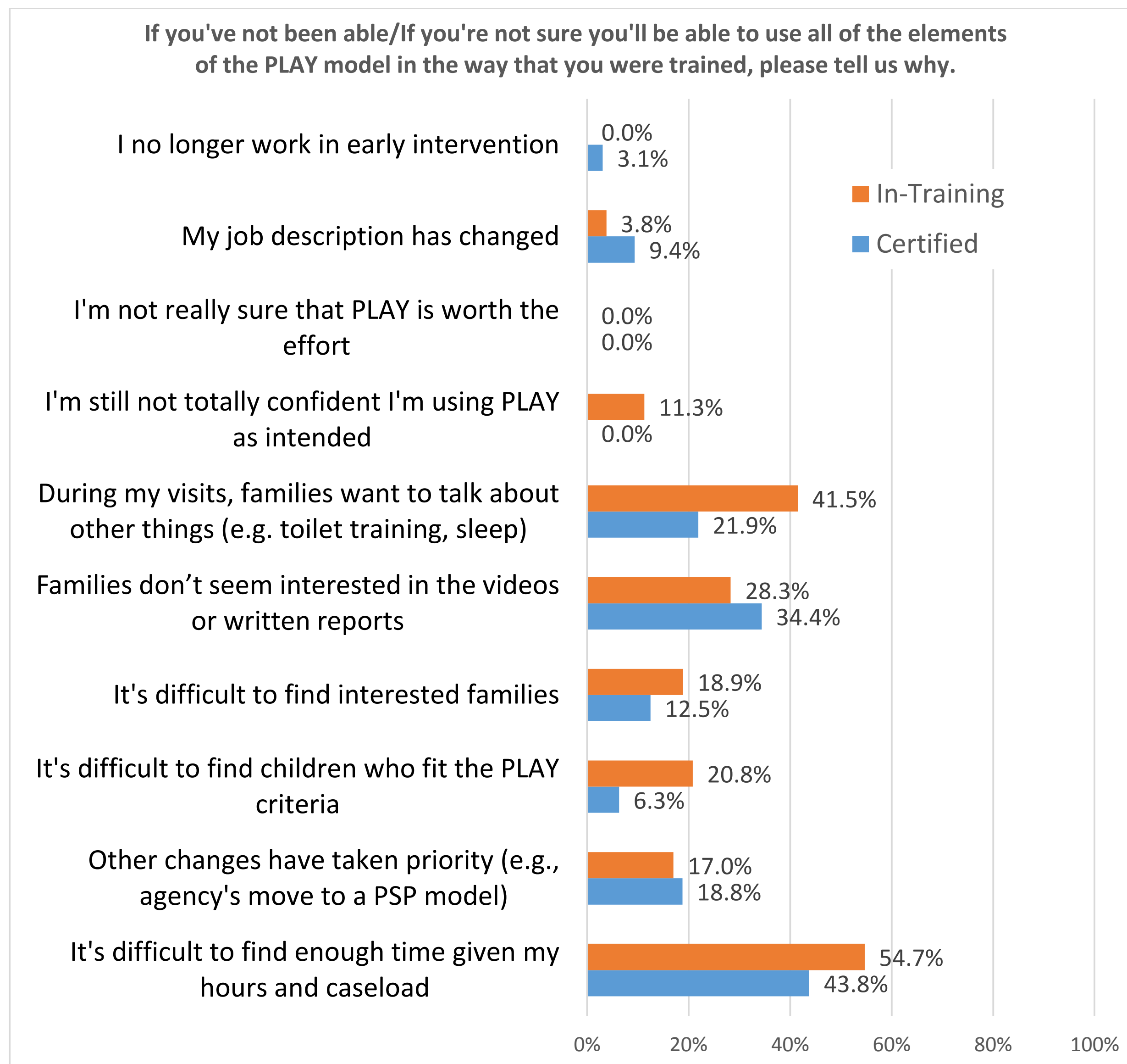
The table on the next two pages contains a side-by-side comparison of each PLAY component in terms of importance and frequency of use. Once again, no component was rated by 100% of the participants as either very important or being used consistently (*Almost Always*). The patterns of responses were very consistent with the previous fidelity questions on the surveys:

- The highest ratings were given to the components of using the PLAY intervention techniques and activities, encouraging families to engage their child daily, providing the family with a written report, and using the PLAY written report format.
- Giving families the DVD received the lowest ratings in terms of importance and frequency.
- The remainder of the components fell somewhere in the middle, with typically 50-75% of the participants rating the components as very important and/or likely to be used consistently. Of note is that these “middle” components often received a higher rating of importance than actual usage.

Post-certification fidelity questions:	*How **IMPORTANT** is it/will it be to include these elements in your current/future PLAY work with families?*				*How **OFTEN** do you include/plan to include these components during your visits with your PLAY families?*		
Element		Certified	In-Training			Certified	In-Training
Giving the family the PLAY Project DVD to review?					*Rarely*	32.2%	25.0%
	Not too important	35.5%	22.9%		*Sometimes*	32.2%	20.8%
	Somewhat important	35.5%	47.9%		*Often*	3.2%	16.7%
	Very important	**29.0%**	**29.2%**		***Almost always***	**32.2%**	**37.5%**
Scheduling monthly 3-hour visits or equivalent?					*Rarely*	9.7%	6.3%
	Not too important	9.7%	6.3%		*Sometimes*	3.2%	8.3%
	Somewhat important	19.4%	29.2%		*Often*	25.8%	20.8%
	Very important	**71.0%**	**64.6%**		***Almost always***	**61.3%**	**64.6%**
Using the assessment tools to create a unique profile for each child?					*Rarely*	--	--
	Not too important	6.5%	2.1%		*Sometimes*	25.8%	8.3%
	Somewhat important	35.5%	25.0%		*Often*	22.6%	31.3%
	Very important	**58.1%**	**72.9%**		***Almost always***	**51.6%**	**60.4%**
Using the intervention techniques and activities in the PLAY training manual?					*Rarely*	--	--
	Not too important	--	--		*Sometimes*	--	--
	Somewhat important	3.2%	2.1%		*Often*	3.2%	10.4%
	Very important	**96.8%**	**97.9%**		***Almost always***	**96.8%**	**89.6%**
Spending sessions in 1/3 modeling, 1/3 coaching, 1/3 feedback?					*Rarely*	--	--
	Not too important	--	--		*Sometimes*	3.2%	6.3%
	Somewhat important	32.2%	16.7%		*Often*	41.9%	31.3%
	Very important	**67.7%**	**83.3%**		***Almost always***	**54.8%**	**62.5%**

Post-certification fidelity questions:	*How **IMPORTANT** is it/will it be to include these elements in your current/future PLAY work with families?*			*How **OFTEN** do you include/plan to include these components during your visits with your PLAY families?*		
Element		Certified	In-Training		Certified	In-Training
Encouraging families to engage their child in short play sessions daily for a total of 2 hours/day, 15-20 hours per week?	*Not too important* *Somewhat important* ***Very important***	*Question not included*	-- 4.2% **95.8%**	*Rarely* *Sometimes* *Often* ***Almost always***	*Question not included*	-- -- 6.3% **93.7%**
Completing and leaving the Visit Suggestion Report with the family?	*Not too important* *Somewhat important* ***Very important***	*Question not included*	-- 20.8% **79.2%**	*Rarely* *Sometimes* *Often* ***Almost always***	*Question not included*	-- -- 35.4% **64.6%**
Using video feedback following each visit?	*Not too important* *Somewhat important* ***Very important***	-- 29.0% **71.0%**	2.1% 25.0% **72.9%**	*Rarely* *Sometimes* *Often* ***Almost always***	3.2% 6.5% 19.4% **71.0%**	2.1% 10.4% 18.8% **70.2%**
Providing the family with a written report following each visit?	*Not too important* *Somewhat important* ***Very important***	-- 6.5% **93.5%**	-- 21.3% **78.7%**	*Rarely* *Sometimes* *Often* ***Almost always***	-- 3.2% 9.7% **87.1%**	-- 10.4% 16.7% **72.9%**
Using the written report format suggested in the PLAY training manual?	*Not too important* *Somewhat important* ***Very important***	-- 16.7% **83.3%**	4.2% 14.6% **81.3%**	*Rarely* *Sometimes* *Often* ***Almost always***	-- 3.2% 9.7% **87.1%**	-- 4.2% 14.6% **81.3%**
Periodically reassessing and revising the PLAY plan?	*Not too important* *Somewhat important* ***Very important***	3.2% 19.4% **77.4%**	-- 14.6% **85.4%**	*Rarely* *Sometimes* *Often* ***Almost always***	3.2% 3.2% 19.4% **74.2%**	-- 6.4% 17.0% **76.6%**

What might account for the participants viewing certain elements as less important and/or less likely to be used in their work with families? A first set of factors from Bronfenbrenner's ecological model might be related to the participant (individual and microsystem) or the participant's agency (mesosystem). In the final fidelity-specific question, we provided a list of these factors, and asked participants to choose as many reasons as applicable to their situation. As can be seen in the table below, the factor chosen most frequently by both the Certified Consultants and the Consultants-in-Training was finding enough time given their hours and caseload. The next two most frequent reasons chosen by both groups focused on the actual PLAY work with families, i.e., families wanting to talk about other things during the visit, or families not seeming interested in viewing the videos or reading the reports provided by the Consultant. Almost one in five respondents in both groups reported that other EI initiatives had taken priority. Compared to the Certified group, the Consultants-in-Training reported more struggles in finding children and families, as well as feeling less confident about their use of PLAY. Nevertheless, no one in either group felt that PLAY was not worth the effort.



Twenty-one of the participants provided additional comments to explain their choices. Comments that focused on difficulties regarding families fell into three groups: (1) families who have so many other challenges that staying on task during a visit or implementing strategies between visits is difficult, (2) families who find 3-hour visits to be too long for their child and/or themselves, and (3) families who are reluctant to either be videotaped or watch themselves on video. The participants also explained that when they scheduled visits more frequently than once a month, then it was difficult to find the time to turn around the video reviews and reports before the next visit. Several of the Consultants-in-Training commented on the difficulty of remembering all the PLAY "pieces and parts."

- "Sometimes I like to think before leaving the visit suggestion report. It is hard to do right at the appointment and sometimes I just forget."
- "I sometimes forget to leave a visit suggestion report mostly because it is not a habit that I do with all of my EI families. I often complete it and give it to them at a later time for their records."

A second set of factors from the ecological model could be related to the wider culture of Part C early intervention in Ohio (macrosystem). We heard comments about the macrosystem both during our June 5 focus group and during our individual telephone conversations with the PLAY supervisors. Since both the focus group and telephone interviews took place at the end of the data collection, we had started to see the fidelity challenges emerge in the survey responses and so we were able to explore the issue of fidelity in greater depth with both groups.

During the June 5 focus group, we asked a specific question of the five participants: *What, if anything, would make the PLAY model inconsistent with how we are doing early intervention in Ohio?* The responses summarized the challenges of wearing two hats (PSP working on IFSP goals v. PLAY consultant working on PLAY goals) and what is perceived as different interpretations of "coaching."

- "I feel like when I'm the PSP (I am for all these families) and when I do PLAY then I do a different visit. When using the PSP model, it's two different types of visits. When I do PSP I may be doing a visit with the OT or PT and focus on feeding or communication and they don't quite understand the whole PLAY model – it is confusing for families – it's fragmented – like a split personality."
- "The little sheet that I leave with families for regular home visits – what we're working on and when I'll be back – it's a carbon copy – when I do PLAY I'm using a different sheet so it's two different things."
- "Having been in EI a long time, my thought is that the PSP model is really McWilliam's baby – the Rush and Shelden model is another take on that – then there's PLAY. I see McWilliam's PSP model as going well enough with PLAY. But R&S use the word *coaching* but their coaching (find out what parents know before we say anything) is not PLAY coaching. PLAY is like coaching a game and we will work with them and do true coaching – R&S is like counseling and exhausting what parents know & then putting our two cents in."

- “As far as inconsistencies we do a lot of the same techniques – but when you have a goal for the IFSP that the parent wants you to work on, that’s your job. But yet they have other areas to work on and FDL levels to focus on, so I basically go out 2 times – if I’m working on PLAY I go for that or IFSP I will go out for that – that’s where I see inconsistencies – the goals don’t always see eye to eye and I have to explain that to parents – when I come back out next we’ll work on….it’s a lot for a family.”

The Ohio PLAY supervisors shared that they had heard similar comments during the interactions with trainees going through the certification process.

- “I am not surprised that trainees are not planning to use PLAY with fidelity. They are following the IFSP and doing a lot more than just PLAY. Some have to do evaluations, redeterminations, team meetings, they have high caseloads, they are really hit. There are a lot of HMG requirements, reviews, documentation, progress notes, etc. It takes a lot of their time. I would be surprised if anybody is ever able, in any situation, with any families, to do the model the way that it is recommended by Michigan (with a few exceptions, since I have talked to a few people who are using the model in the correct way). I would be very surprised if it is happening much, though, just knowing everything that people have to do.”

THE FAMILY EXPERIENCE

During the telephone interviews, we asked families a variety of both open-ended and closed-ended questions that touched on why they wanted to participate, what their PLAY experience was like, and what impact PLAY had on their child and family. Two-thirds of the families were still receiving PLAY at the time of the interviews. Of the 12 families for whom PLAY had ended, slightly more than half (7) reported that their child had turned 3 and had “aged out.” Two of the families shared that leaving PLAY had been a mutual decision with their PLAY Consultant: e.g., “we agreed that my daughter had reached as high as she could go.” Three of the families chose to end the intervention: one parent commented that “We were doing a lot of early intervention. I had gotten as much out of the PLAY as I could – it had run its course.” Another parent felt as though her son had not “clicked” with the PLAY Consultant, and that the strategies were similar to what she was getting from other professionals: “I never felt like we were getting anything out of it.”

Why they chose to participate. When we looked at the reasons families gave for participating, we saw four themes emerge:

- 14 families said they chose to participate because *a professional had recommended it* ("M thought it would be really good"; "It was presented as a way to get feedback from other professionals about what I was doing right or wrong with my son");
- 11 participated because the *caregiver wanted to be better able to help his/her child* ("I did not know how to interact with this kind of child and it was my first child"; "I did not know a lot about autism and I wanted to learn more";
- 8 thought it would *be helpful to their child* ("We started because of his diagnosis and to help get him out of that little world"; "We thought it would be a good opportunity for him"); and
- 4 wanted *continued support* ("Partly because EI had ended. C is amazing and I wanted her to keep coming").

What their PLAY experience was like. During the visits, 100% of the caregivers interviewed were present. In addition, 11 (30.6%) families reported that their spouses were also present, and 10 families (27.8%) described that the child's siblings were typically present for the visits. Almost all of the caregivers (34 of the 35, or 97.1%) reported that they definitely looked forward to their PLAY visits, while the remaining caregiver acknowledged that sometimes she was exhausted since the visit was after her workday.

As can be seen in the table below, slightly more than half of the families reported that they received PLAY monthly, with the remainder reporting more frequent visits. When asked about the frequency of the visits, 83.3% of families felt the frequency was just right and 16.7% said the visits were too far apart; the majority of those families who felt the visits were too far apart were receiving monthly visits.

Weekly	Every Other Week	Monthly
8.6%	34.3%	57.1%

Families who felt the frequency was just right felt that it gave them time to try the strategies between visits as well as, in many cases, time for the other services in which their child was involved:

- "Gives us time to work on things we have learned and then get back together."
- "I was able to seek outside therapies. I was overwhelmed with all these appointments."

Families who wanted visits more frequently typically were ready for more information:

- "I know there are constraints for money and time, but the more therapy the better. To have even more guidance would be awesome."
- "Whatever they show you, you have to do it for four weeks. She introduced a new way to play and he was interested and then got bored between visits."
- "We would love to have more, but G said he only is allowed 12 or 16 visits in his lifetime. I would prefer every other week...if they were unlimited. Wish list...every other week and unlimited in terms of ending."

Even the families who reported the visits as "just right" wished they could have had more:

- "When we first started I wish it could have been every 2 weeks. I was wondering if I could be doing more in between visits."

- “Some weeks I felt like I wish we were doing this more. Other times it was good to have time in between to do activities and then evaluate.”

Only one family reported that they typically received a three-hour visit. The majority of families (58.3%) reported that their visit generally was one hour in length, 22.2% said visits were 1.5 hours, and 19.5% reported having visits that were two hours or longer. Regardless of the length of the visit, almost all (91.7%) of the families said the length of the visits was just right, especially given their child’s attention span and ability to stay engaged.

Most of the families we interviewed had extensive experience with PLAY. Almost one-half of the families had participated in 10 or more PLAY home visits. Another 43% had participated in five to eight visits, one family had participated in three visits, and two caregivers couldn’t remember for sure.

Family perspectives on the key PLAY components. In addition to asking about the frequency and length of visits, we asked a series of questions about the key PLAY components. When asked about the introduction to PLAY DVD, 65.7% of families reported that they received the DVD when they first started PLAY, 20% of families said they did not receive the DVD, and 14.3% of families could not remember if they had been given the DVD or not. Within the group of families who did receive the DVD, 87.5% reported that they had watched it. Additional comments from the families were mixed: either families really enjoyed the DVD and wished they had a copy to keep, or they felt the DVD was too long and slow-moving. Nevertheless, the families felt the DVD was beneficial overall.

We then asked a specific question about how often the PLAY Consultants included certain key components during the home visits.

During each visit, did the PLAY Consultant . . .	**Don't remember**	**Rarely**	**Sometimes**	**Almost always**
Video you playing with your child?	0%	0%	11.1%	88.9%
Model PLAY strategies for you?	0%	0%	0%	100%
Watch you play with your child and make comments?	0%	0%	5.6%	94.4%
Give you feedback about your child?	0%	0%	0%	100%
Leave you with ideas and strategies to try before the next visit?	0%	0%	2.8%	97.2%
Encourage you to engage your child in 15-20 minute play sessions daily for a total of 2 hours/day?	5.6%	2.8%	5.6%	86.1%
Complete and leave the Visit Suggestion Report with you?	5.8%	14.7%	8.8%	70.6%

We followed that question with a detailed question about the videorecording and written report. As can be seen in the table below, the families reported receiving both the video and report on a consistent basis. However, the families were not consistently receiving the video and report PRIOR to the next visit, and often described that the PLAY Consultant brought the video/report to the next visit and they would review it together. Although the majority of families viewed the video and read the report, they were more likely to read the report than view the video. Approximately three-fourths of the families reported that both the video and report consistently gave them a better understanding of their child. Interestingly, the video was seen as more helpful than the report in terms of helping them learn how to play with their child.

	Rarely	Sometimes	Almost always
Did you receive a written REPORT each time you met with your PLAY Consultant?	2.8%	5.6%	91.7%
How often did you receive the report PRIOR to the next visit?	45.7%	11.4%	42.9%
How often did you read the report?	2.9%	11.4%	85.7%
How often did the report give you a better understanding of your child?	2.8%	25%	72.2%
How often did the report help you learn how to play with your child?	5.6%	33.3%	61.1%
Did you receive a VIDEO recording each time you met with your PLAY Consultant?	0%	5.6%	94.4%
How often did you receive the video recording PRIOR to the next visit?	48.6%	8.6%	42.9%
How often did you watch the video recording?	5.6%	25%	69.4%
How often did the video recording give you a better understanding of your child?	2.9%	25.7%	71.4%
How often did the video recording help you learn how to play with your child?	2.9%	20%	77.1%

Parent use of PLAY. We asked the families about two different aspects of their use of the PLAY model. We first asked families to rate (on a four-point Likert scale) how easy it was to understand the PLAY strategies and then explain their answer.

1 Difficult	2	3	4 Easy
0.0%	0.0%	34.3%	65.7%

Families described how easy it was to understand the PLAY approach, although at times certain strategies were more of a challenge:

- “They made it easy to see different ways of going about it.”
- “I understood everything she told me to do.”
- “Sometimes I was not entirely sure. She would lead by example.”
- “Sometimes I get the basic idea but because specific situations come up, I don't know what to do with them.”
- “Most of the ideas are straight forward overall. When it gets to a specific situation, that is where it is more difficult to decide on the best strategy to try. Overall concept of PLAY makes sense, pretty easy.”
- “She tried every way to bring me in, to make me feel easy. She explained verbally, acted as role model. She went through video, practically and verbally, visually. I did practice too with her in front of me.”
- “Sometimes with strategies I would have to ask her explain them on the next visit because I could not figure it out.”
- “It just became a natural way to interact and we do it still today.”

If the strategies were easy to understand, were families using the strategies? We asked the families to rate (on a four-point Likert scale) how often they used the PLAY strategies between visits and then explain their answer.

1 Rarely	2	3	4 Every day
0.0%	5.7%	25.7%	68.6%

Families described the process of learning, i.e., “in the beginning it was hard to get out of our normal routine of doing things and incorporate PLAY.” Seeing results made a difference:

- “You pick up on things and it becomes second nature . . . the strategies you know work.”
- “Because they worked and I saw the results, my husband and I did everything to use them.”
- “I watch the video every day so I keep practicing and adding. My kids watch it with me and we all laugh. It is kind of fun. Sometimes I watch the one from the past to mix it up. I use them all the time.”
- “It had been drilled into my head that it has to be consistent. I just make time.”

The families were honest, however, that sometimes “life” interferes.

- “A lot of it was overwhelming for me and we had other therapists... it would be confusing to me with all the different therapy strategies.”
- “We all have busy days or bad days where we don't feel like doing anything. The strategies are easy enough to incorporate into our everyday lives, that I am able to use them more often than I would other interventions. We are huge PLAY project advocates.”
- “It's hard to follow and schedule for me. I have to do every household chore, feed him, bathe him.”

- “There were times when I forgot to use them.”
- “Some days I got busy and I did not have time to do it.”

PLAY and stress. Given the time commitment that PLAY requires not only of the Consultants but also the families, we were interested in whether or not families felt that PLAY added to their stress levels. We asked two stress-specific questions during the telephone interviews. The first question asked families to use a four-point Likert scale to describe the overall stress level in their lives during their PLAY experience:

1 Rarely felt stressed	2	3	4 Almost always felt stressed
14%	8%	39%	39%

Families described the stressors that research has shown often go hand in hand with having a child with ASD (meltdowns, transitions, worrying about the future) as well as the stressors that are part of relationships and work: schedules, going through a divorce, moving into a new apartment, medical issues, losing a job. Nevertheless, PLAY rarely added stress to their already stressful lives.

To what extent did the PLAY intervention add to your stress level at the time?		
Rarely	Sometimes	Frequently
89%	11%	0%

When PLAY did add stress, families typically described it as a good stress. One parent commented : “Good stress. Just another scheduling issue. Another thing to think about.” Another parent noted, “Making sure the house is clean.”

The families were overwhelmingly positive about the presence of PLAY in their lives during this stressful time:

- “PLAY was a break from stress. M made it very relaxing and part of our everyday life.”
- “Never . . . it helped me figure out how to understand him.”
- “It doesn’t [add stress]. She actually helps me with my stress.”
- “Gave me less stress because someone was trying to walk with my child and me. Gave me hope every time. Did not add stress to my life.”
- “It was another set of ears. It added support for us.”

The word cloud below (also on the cover) visually represents the text of the comments from families about the difference PLAY made in their lives. (The larger the font, the more often the word appeared.)

WHAT WE LEARNED FROM THE CONSULTANTS WHO WERE NO LONGER ACTIVE

As we described earlier, our response rate was low as we reached out to the group of consultants who were no longer active in the certification process. We began by sending out a survey almost identical to the survey sent to the Certified and Consultant-in-Training groups. Since we received only 6 responses, we shortened the survey significantly and re-sent to the group; unfortunately we had only two additional survey completions, even with the shorter survey. In addition, not everyone completed all the survey questions. Given the small sample size and response bias (since 80% of the group did not respond to the survey), we have not included the data in other sections of the report. Nevertheless, we want to describe what we heard from this particular group, since their responses were almost always consistent with what we heard from the Certified Consultants and Consultants-in-Training.

- The eight people who responded (six to the long survey, two to the short survey) were evenly split between smaller counties and larger urban counties.
- Interestingly, this group rated themselves higher than the other groups in terms of comfort level (prior to the PLAY training) with parent-child interactions, confidence in coaching families and confidence in giving feedback to families, but, like the other groups, felt that their work in all areas had been enhanced by the PLAY training.
- The hours they spent on the job, their caseloads, the number of PLAY families, the time spent working on PLAY inside and outside work hours were similar to the other groups.
- Their struggles and perceptions of factors that helped/made no difference/didn't help were also similar.

- Their patterns of responses to the fidelity questions were similar to the other groups surveyed.
- Although (1) the length of time that elapsed between the home visit and reviewing the video/ writing the report and (2) the hours spent reviewing the video/writing the report were similar to (even a bit less than) the other groups, all of the No-Longer-Active group reported at least one month or more elapsing between the home visit and submitting the video/report to the PLAY supervisor.

The process of moving from active to no-longer-active.

- This group reported that they had been involved in the PLAY certification process for an average of 18 months, ranging from 4-24 months. The majority of them felt that the process was taking longer than they had expected, and half of them had received an extension. The average number of certification requirements completed was 7.2, ranging from 0-14.
- How did they describe the point at which they became inactive?
    - 3 out of the 7 respondents notified PLAY that they would not be continuing.
    - 1 was notified by PLAY that they were being moved to the no-longer-active list.
    - Another 3 chose other: retirement, maternity leave, or dissatisfaction with the quality and length of time it took to receive feedback from the PLAY supervisor.
- Only one person expressed regrets about the change in status to inactive.
- When we asked the group to choose the #1 reason why they were no longer actively involved in PLAY, 5 out of the 6 respondents chose "it was difficult to find enough time to complete the required tasks given my hours and caseload." The remaining respondent chose "I became discouraged about my progress."

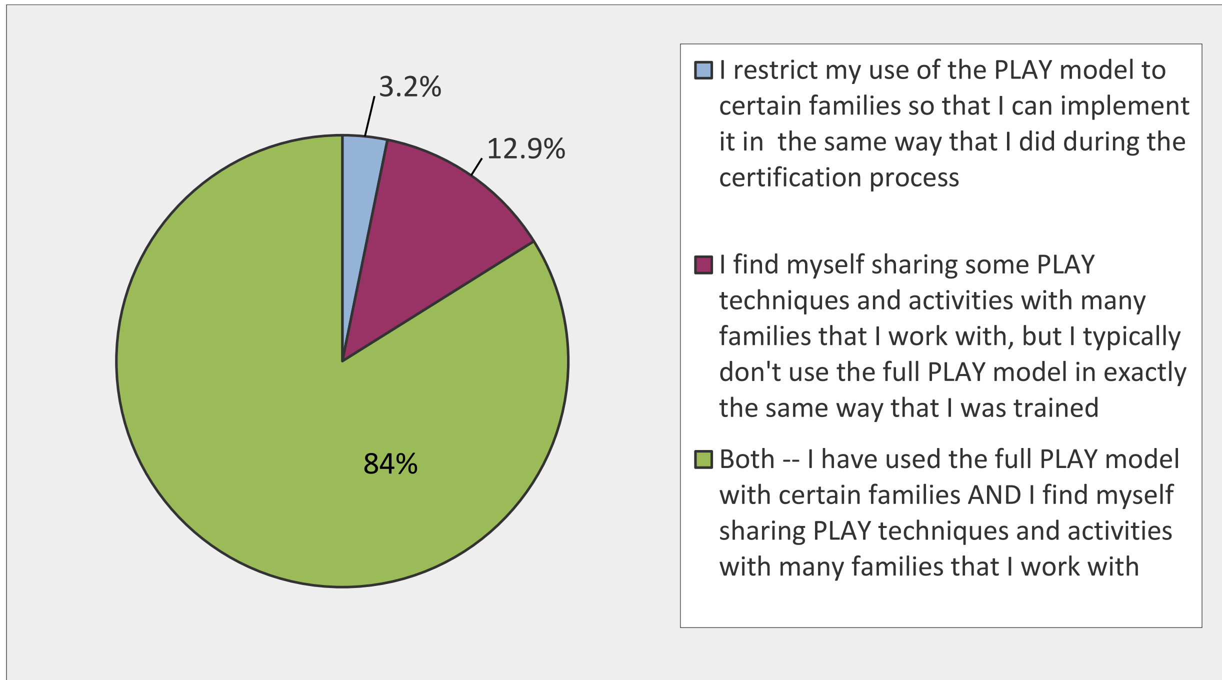
- Did this group think the PLAY model is a good intervention for families? Three of the four responded YES, with the remaining person responding UNSURE.
- Would they recommend the PLAY training and certification to others? Four of the six responded YES, and the remaining two responded NO. However, the two who replied NO did not choose to explain their answers.

IMPLEMENTATION OF PLAY POST-CERTIFICATION

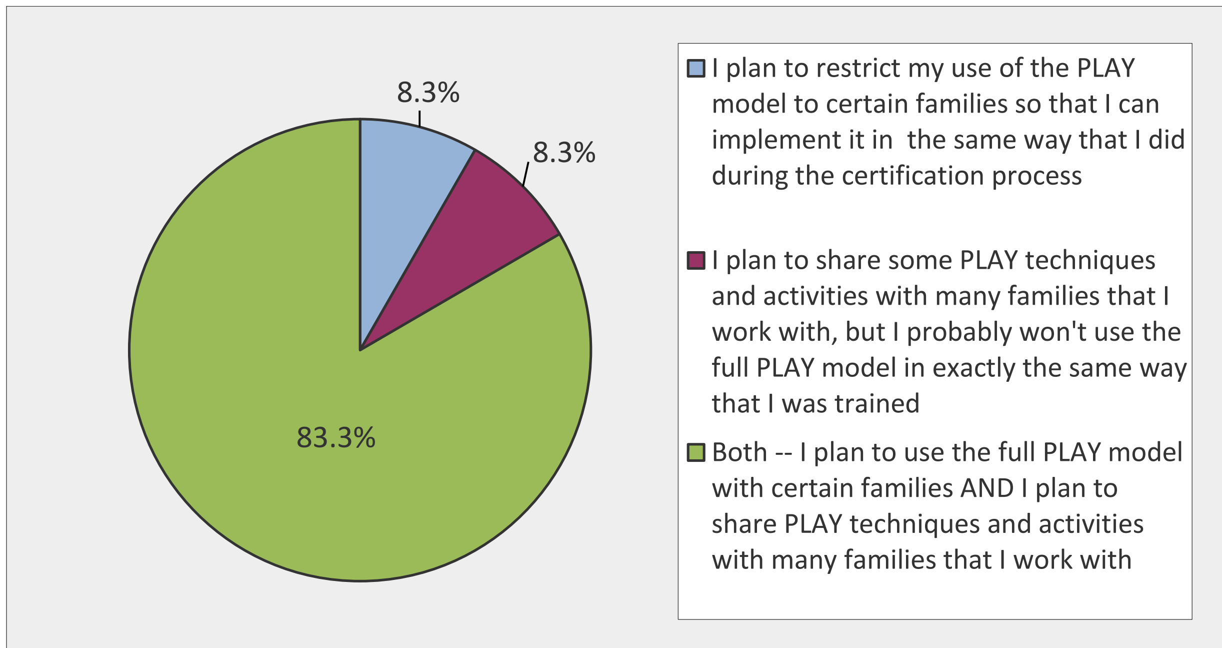
The various players involved in the Ohio PLAY Project Training – the state, the PLAY Project staff and supervisors, the families, and the consultants and their administrators/supervisors have invested a significant amount of time, effort and resources. What happens/will happen once the consultants are certified?

Current/future use of the PLAY model. We first asked if the consultants had either used (Certified) or were planning to use (Consultants-in-Training) the PLAY model in their work with families once they were certified. Almost all (96.8% of the Certified and 100% of the Consultants-in-Training) reported that they were using or planned to use the PLAY model. Only one Certified Consultant reported that (s)he does not use the PLAY model: "I have used techniques from PLAY with families, but not the full model. Again, I have offered, but families decline for one reason or another."

Since fidelity of implementation is important, we asked another question regarding HOW the participants were using or planned to use the PLAY model. The chart below illustrates how the Certified Consultants described their current use of the PLAY model with families:



The chart below illustrates a similar pattern in how the Consultants-in-Training plan to use the PLAY model in the future once they are certified:



Similar to the Certified Consultants and the Consultants-in-Training, the majority of the Administrators/Supervisors (85.7%) reported that their agency plans to use both the full PLAY model with certain families as well as parts of the PLAY model (specific strategies and techniques) with many other families. Only 14.3% reported that their agency planned to restrict the PLAY to certain families so that the model can be used as intended.

We then asked an open-ended question of all three groups: *How do you/How will you decide to offer PLAY as an intervention model to families?* We were able to code the responses into six major categories (*Autism Diagnosis, Red Flags, Autism Diagnosis AND Red Flags, Family Fit and Commitment, Caseload,* and *Systematic Protocol*). The responses suggested the complexity, county-specificity, and sometimes uncertainty regarding how and when to offer PLAY. Some counties were focusing primarily on children who were already diagnosed; other counties were using "red flags" as their criteria since children were not always getting a diagnosis prior to age three; and yet other counties were using both a diagnosis and red flags as their primary criteria. Frequently the family "fit" and buy-in were mentioned as additional criteria. For example,

- "Initially I was so excited about the progress I saw with the children who were participating in the PLAY Project that I was offering to most of the children I served with the diagnosis or who had 'red flags.' Now I am getting to know the family before mentioning it as an intervention option. I always find the information from the video analysis, etc., as beneficial, but if the family doesn't, then it is not worth the time that I have to put into writing the report. It makes me sad, but it is reality. If they don't take the time to read the report or watch the video, I can't justify spending the time it takes to write the report." (Certified Consultant)
- "Some families who have a history of non-compliance are not eligible." (Certified Consultant)
- "A child with ASD or symptomatology of ASD and their family will be given the option of PLAY Project as our intervention model when: the family has at least basic reading and comprehension skills, the family expresses their willingness to follow through with suggestions and keep appointments, and the family feels comfortable with and eager to learn what is described to them as the PLAY Project model." (Consultant-in-Training)
- "If a child is identified as potentially benefitting from the PLAY model, then it is discussed with the family and the DVD is provided. It is then discussed again to see if this is something that the family feels that they are able to commit to and want to be a part of." (Administrator/Supervisor)

Often the issue of availability and juggling caseloads was mentioned as a factor, most frequently by Administrators/Supervisors:

- "We are assigned children from a 'wait list' for PLAY. (Certified)
- "I feel like our agency may set limits to the number of children served in PLAY while continuing to offer EI services to children under 3. I think we may have a hierarchy of needs for children who are more complex with ASD as well as those approaching age 3." (Consultant-in-Training)

- “We have developed a referral process for PLAY Project. We also have to be sure we have time availability/caseload opening. The caseload depends on the number of families/children in what state of involvement.” (Administrator/Supervisor)

Occasionally, a participant did mention a specific protocol, which often incorporated both child and family factors in order to address caseload and availability of staff:

- “We have developed a referral sheet to be used by our staff . . . we have found that we can best target our audience and utilize our resources by seeking referrals for children who have the most to gain. With 600+ children in our EI program, we needed to find a way to pinpoint the best match for this intervention model.” (Administrator/Supervisor)

Although we saw lots of variability across the comments, it was clear that the participants saw this decision about when and how to offer PLAY to families as important yet complicated. The complexity also included deciding on what is PLAY v. what is not:

- “I offer them a flyer and see if they are interested. If not, I can use the techniques in their intervention.” (Certified Consultant)
- “I will use the techniques whenever appropriate. Whether I call it PLAY project or not and use the videotaping and written reviews will depend on the needs of the child, where the family is in accepting the child’s needs, family’s ‘buy-in’ to early intervention and their history of following through with suggestions before PLAY project as well as my schedule/caseload. I will have to prioritize depending on these things because I could use the PLAY project with many kids, but those with the most obvious ASD symptoms will take priority due to my schedule.” (Consultant-in-Training)

- “If a family is not willing to make the time commitment, the PLAY consultant will use the PLAY strategies. But we do not consider them as participating in the PLAY Project.” (Administrator/Supervisor)

Finally, one administrator/supervisor commented: “We are working to determine this process now. We could use some guidance.”

IMPACTS OF THE PLAY PROJECT OHIO TRAINING ON CHILDREN, FAMILIES, AND PARTICIPANTS

PLAY participants were asked to think back to their work with children and families PRIOR to the beginning of the PLAY training and certification process, and to rate their comfort level in a number of areas. The administrators/supervisors were asked to rate the comfort level of their staff participating in PLAY. The results in the table below suggest that these early interventionists, although comfortable with observing and talking about development, prior to the four-day training were not nearly so self-confident

in their abilities to coach and give feedback to families. In addition, approximately a third of them were even uncomfortable focusing on parent-child interactions or providing parents with strategies.

	Certified		**In-Training**		**Administrator/Supervisor perceptions of staff**	
PRIOR to PLAY, how comfortable were you in each of these areas?	*Not comfortable at all* **or** *Slightly Comfortable*	*More comfortable than Not* **or** *Highly Comfortable*	*Not comfortable at all* **or** *Slightly Comfortable*	*More comfortable than Not* **or** *Highly Comfortable*	*Not comfortable at all* **or** *Slightly Comfortable*	*More comfortable than Not* **or** *Highly Comfortable*
My understanding of autism spectrum disorder	37.4%	**62.6**	39.6%	**60.4%**	39.1%	**60.9%**
Talking to families about their child's development	21.9%	**78.1%**	22.7%	**77.4%**	26.1%	**73.9%**
My child observational skills	25%	**75%**	20.8%	**79.2%**	17.4%	**82.6%**
Focusing on parent-child interactions	37.6%	**62.5%**	39.5%	**60.5%**	56.5%	**43.5%**
Intervention strategies to teach families	38.7%	**61.3%**	35.8%	**64.2%**	30.4%	**69.6%**
Confidence in coaching families	46.9%	**53.1%**	51%	**49%**	47.8%	**52.2%**
Confidence in giving feedback to families	59.4%	**40.7%**	60.4%	**39.6%**	63.6%	**36.4%**

However, those perceptions changed over time. We asked a second question later in the survey in which the participants were asked to rate the impact of the PLAY training and certification on those same dimensions. (See the table on the next page.) An overwhelming majority of participants from all groups reported that the PLAY training and certification either "Somewhat" or "Definitely" enhanced the quality of their work with children and families. A statistical analysis pairing the pre-post responses showed that in every dimension, the participants reported themselves as more confident.

	Certified	In-Training	Administrator/ Supervisor perceptions of staff
Has the PLAY training and certification enhanced your work with children and families in any of these ways?	*Somewhat* **or** *Definitely*	*Somewhat* **or** *Definitely*	*Somewhat* **or** *Definitely*
I understand ASD more clearly	97%	93.6%	100%
It is easier for me to talk with families about their child	97%	93.6%	100%
My observational skills have sharpened	100%	95.7%	100%
I pay more attention to parent-child interactions	100%	95.7%	100%
I have learned new intervention strategies to teach families	100%	97.9%	100%
I am more confident coaching families	100%	89.4%	100%
I am more confident giving feedback to families about their child	100%	89.4%	100%

Administrators/Supervisors commented on these changes:

- "They always come back from a visit at some point and say, 'It works!' They like that they feel more successful and have given the parents more control of their own success with their child."
- "PLAY has given them confidence in working with all of their families and children – not just those officially in PLAY Project."
- "They have gained coaching skills, intervention skills, and confidence. They 'see' children differently. They understand family interactions differently. They approach families differently."

The virtual focus group conducted in June also provided some feedback from participants regarding the impact of PLAY on their intervention efforts:

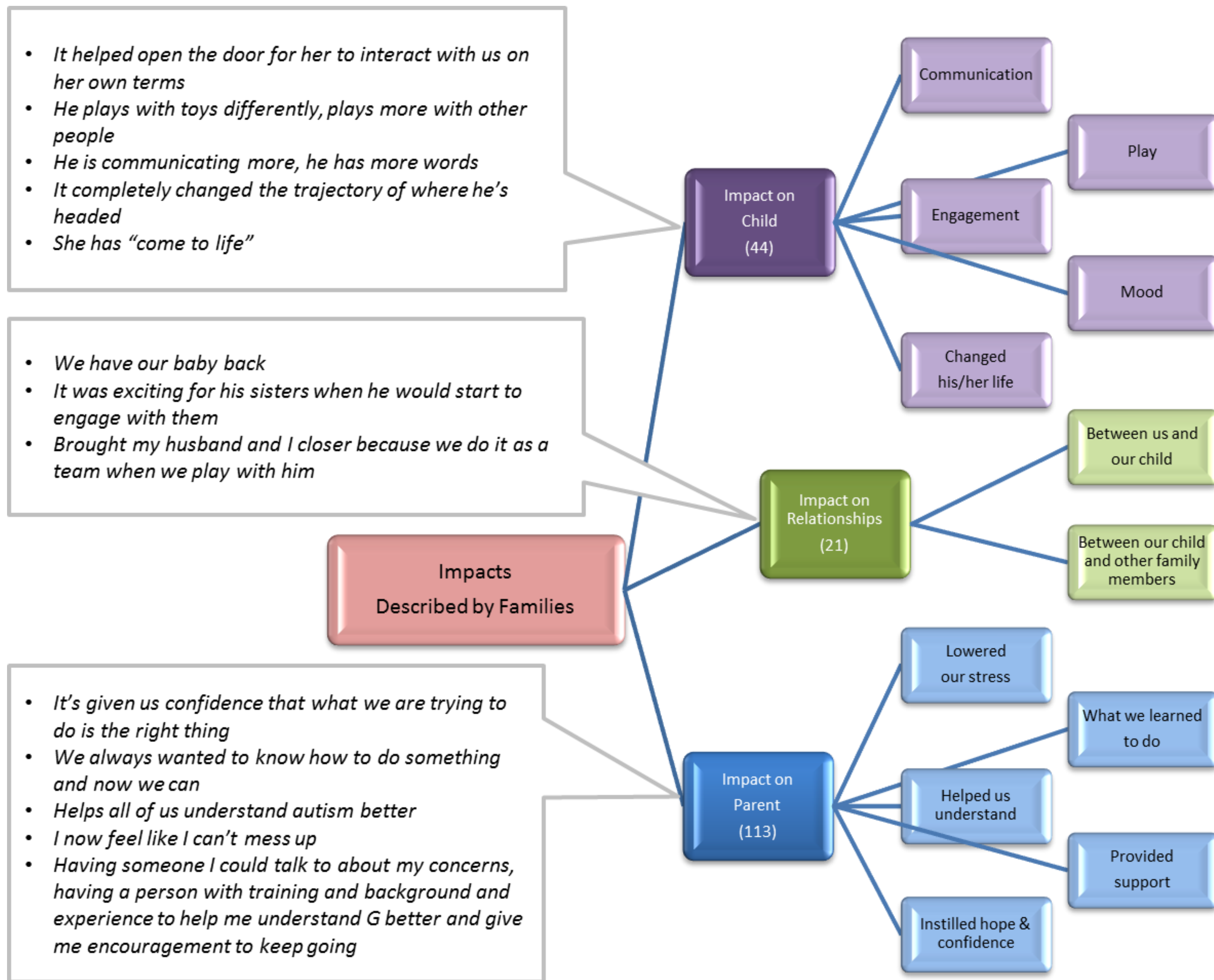
- "It has slowed me down into observing/watching/listening to the child and how they say what they say or do what they're doing – it has helped me stop talking so much and listen to what's going on."
- "It helped me build rapport [with my families] and get them on my side so they take risks - PLAY gave me a framework to hand that off to the families – I was stuck before – I did my treatment and handed them [the child] back to their families, but I wasn't doing the part of building trust and facilitating engagement."
- "…We've talked about this for years, but putting words to strategies – giving definitions to some of the strategies we've been talking about- it's been nice and I use that with PLAY families."

Impacts from the perspective of families. During phone interviews, parents were asked three open-ended questions about impacts: "How has the PLAY Project benefited you and your child? Your family? What has been the best part of PLAY?" Parents could share up to 5 responses per question. Since the parents commented on the child and/or family across all of the questions, we combined the responses (N = 178) and used a qualitative approach to organize the total group of statements into three major categories (*Impact on Child, Impact on Parents*, and *Impact on Relationships*) and subcategories (please see the figure on the next page).

The largest number of statements fell into the "Impact on Parent" category. As one parent described, "It's given me more help than it has my child. When it helps me, it helps him more because I can apply it to him." Parents clearly felt that they had learned how to interact and play with their child, and that they understood their child and autism better: "He loves to be played with and we did not realize that, we thought he was happy playing in the corner." Decreased stress and a sense of hopefulness were also described by the families: "It's helped my stress level go down as I see positive changes and a positive future for him and our family."

Additional comments from families about recommending PLAY to other families summarized their positive feelings about PLAY:

- "It changed our lives and we are forever grateful."
- "It gives you a better understanding of your child."
- "Absolutely. It was a wonderful experience."
- "It helped my son more than I could have ever on my own. I tell everyone about it."
- "Most definitely. It helps us understand, helps us interact with him more and helps him interact with us…"


It helped open the door for her to interact with us on her own terms
He plays with toys differently, plays more with other people
He is communicating more, he has more words
It completely changed the trajectory of where he's headed
She has "come to life"
We have our baby back
It was exciting for his sisters when he would start to engage with them
Brought my husband and I closer because we do it as a team when we play with him
It's given us confidence that what we are trying to do is the right thing
We always wanted to know how to do something and now we can
Helps all of us understand autism better
I now feel like I can't mess up
Having someone I could talk to about my concerns, having a person with training and background and experience to help me understand G better and give me encouragement to keep going
Impacts Described by Families
Impact on Child (44)
Impact on Relationships (21)
Impact on Parent (113)
Communication
Play
Engagement
Mood
Changed his/her life
Between us and our child
Between our child and other family members
Lowered our stress
What we learned to do
Helped us understand
Provided support
Instilled hope & confidence

RECOMMENDATIONS FROM THE PROFESSIONALS AND FAMILIES

We asked two questions of both the professionals and the families that focused on "recommendations":

- Would you recommend the PLAY training and certification to others in our field?
- What, if anything, would you have changed about the PLAY training and certification process?

What the professionals recommended. The table below indicates that the professionals who responded to the online surveys clearly felt comfortable recommending the training and certification to others:

	Certified	Consultants-In-Training	Administrators/ Supervisors
% YES	100%	95.5%	100%

We received a total of 124 comments from the three groups in response to our request for recommendations about changes. We categorized these comments into nine themes:

Theme	Number of Comments
1. More preparation in the four-day training	33
2. Supervisor feedback	32
3. Certification requirements	18
4. Changes in the PLAY model	12
5. Collaborative support	12
6. Technology	7
7. Administrative support	7
8. Professional credit	2
9. Miscellaneous	1

1. *More preparation in the four-day training.* The comments in this largest category indicated that the participants wished for more "nuts and bolts" of PLAY to be included in the four-day training: more samples of video reviews/reports (along with the corresponding video), clearer guidelines on what to give families to supplement a verbal explanation of PLAY, more information on what a typical visit looks like, how to choose families that are a good match for PLAY, what a 1.5 hour visit would look like compared to a three-hour visit, more examples of how to coach families while the camera is recording, how to structure a home visit, videos of actual home visits, and/or how to write a report step by step. Several people mentioned that the amount of information in the four days was overwhelming.

> *"I thought I understood everything after the training, but once I began I had more questions."*

2. *Strengthen the supervisor feedback*. The comments in this theme, the second largest category, included three "subcategories":
    - Faster feedback: "I enjoyed the supervisory process; however, sometimes there was a lag in response & I feel it would have been helpful to get feedback before my next visit with a family."
    - More consistent feedback across supervisors: "I am confident that I could have shared my case studies with two different supervisors at the same time and received completely different feedback based on their own discipline, passions, etc."
    - A different feedback format: "It would be helpful if the supervisors marked a rubric to show and tell us why we got the score we got." "I would have like a written review of my reports rather than the audio." "Explore the possibility of face-to-face reviewing of at least one video with a supervisor."
3. *Certification requirements*. This category was quite diverse. Some people wanted fewer requirements, some people wanted to keep the number at 20. Some people liked the alternatives, others felt that submitting videos was by far a more meaningful learning process. One person wrote: "The online case studies are beneficial but not as effective as the supervised videos and reports. I would suggest the online case studies be part of continued training and support after certification rather than as part of the certification process."
4. *Consider changes to the PLAY model*. These comments included improving/shortening the DVD, limiting the amount of paperwork (length of report), focusing less on the FDL scores and percentages, integrating additional information such as visual schedules, and providing more concrete ways to measure success.
5. *Strengthen collaborative support.* Participants wanted us to know how important ongoing support is, whether through more regional meetings, mentors (especially with increasing numbers of Certified Consultants), peer review, or establishing small work groups regionally.

> *"If someone is doing this alone in their county, make sure they can get support from others involved in the process."*

6. *Improve technology*. This category was surprisingly small, and more comments came from the Certified Consultants than the Consultants-in-Training, suggesting that the use of technology is becoming less of an obstacle over time.
7. *Strengthen administrative support*. These comments focused on the importance of buy-in at the local level. One Certified Consultant wrote: "I had no support or encouragement from my supervisor. She often acted as though it was unnecessary. She did not prevent me from going forward with it but I had no support. I still receive very little support or understanding from her on the time it takes. As a result, I do the best I can because I believe in this model but I would do things differently if I were allowed to carve out more time for this program."
8. *Consider offering professional credit*. These two suggestions included either graduate credit or an "autism certificate" program.
9. *Miscellaneous*. One comment did not fit any category.

The word cloud below is a visual representation of the text of the recommendations from professionals:

What the families recommended. When asked if they would recommend the PLAY Project to another family, 97% of parents interviewed responded, “Yes” and 3% said, “Probably”. Many families offered that they already had recommended the program to others.

Families were also asked to share what they would change about their PLAY experience; the majority responded, “Nothing”. The two most common recommendations were *increase the frequency of visits* and *increase the length of time families could be involved* in PLAY. We also had several parents comment on their dislike of being videotaped and that the reports were too long.

When families were asked if there was anything else they’d like us to know, all responses provided were highly complimentary:

- “It is invaluable. What I really love is that it focuses me each month. [It] reinforces what I’ve learned and gives me a chance to ask questions.”
- “It changed our lives. It took a severely autistic child and brought him into our world . . . he let us in.”
- “Besides wanting it to go on forever, I would not change it.”

What the Ohio PLAY Supervisors recommended. In our individual telephone interviews with the five Ohio PLAY supervisors, we asked them for their recommendations to improve (a) the supervision process and (b) the certification process.

(a) The supervision process. The PLAY supervisors clearly were feeling some of the same concerns as the trainees with regard to the timeliness, consistency and format of the feedback provided. The suggestions from the PLAY supervisors were consistent with what we heard from the Certified Consultants, the Consultants-in-Training, and the Administrators/Supervisors:
- *Meet more often as a group or supervision "team,"* not only to brainstorm and problem-solve, but also to insure uniformity in their reviews of the videos/reports sent to them.
- *Have some kind of "personal" contact with the trainees,* whether by phone or, if possible, in person – and even, perhaps, have the opportunity to observe a live visit.
- *Have the opportunity to review several videos in a row submitted by the same trainee of the same child* in order to develop a relationship and deeper understanding of the child, the family, and the trainee's style.

(b) The certification process. In their conversations with us about recommendations for changes to the certification process, all of the PLAY supervisors focused on three themes that had also emerged in the online surveys: administrative support, certification requirements, and collaborative support.
- *Increase local agency administrative support.*
  "It seems like it is difficult for the newly certified consultants to know how PLAY fits in with their existing roles. It seems to cause stress for people to think about being an SLP and adding a PLAY caseload, or being a DS and adding a PLAY caseload – is that a lack of supervisor assistance? It's a free training, so supervisors send people, and then at the regional meetings people talk about how they are dying because they have so much on their plates. People aren't always feeling supported back at the ranch."
- *Revise the most current certification requirements to include a minimum of 15 video submissions*.
  The PLAY supervisors were unanimous in their concern about how reducing the number of video submissions had affected the quality of the certification process. "There are people from 2014 who are already certified which is really quick. In the past, it took at least a year. It's good if your goal is to churn out certified people, but the quality has gone down a bit. The work days are good, but they don't equate to having someone review your own case. With additional reviews, you're also getting more time in practice while still receiving feedback. A group case study doesn't equal a personal review. New trainees are getting certified with less feedback, which is going to bring down the overall quality when those trainees are out there not doing a good job."
- *Continue to provide support and mentoring once a consultant has been certified.*
  "No one is ever done learning – there is always going to be that case or that situation where you need someone to run through it with you, someone to bounce ideas off of, someone to give you a fresh perspective, even if you're not having trouble per se. "

The PLAY supervisors also made one final suggestion that we did not hear from the survey participants:

- *Consider having consultants dedicated to PLAY, whether within one agency or shared across agencies.*
  "The problem is when PLAY consultants also have three other outcomes on the IFSP that are totally separate things that they also have to address. If PLAY is not the only thing that they are doing, it makes the time element harder. If a person's role was only PLAY, and someone else was helping with the other stuff, that would make it much easier." The supervisors also felt that having dedicated PLAY consultants could help strengthen fidelity to the PLAY model.

SOME FINAL THOUGHTS ABOUT IMPLEMENTATION SCIENCE

Early in this report we identified three key concepts from implementation science: (1) critical factors, (2) fidelity, and (3) training practices that are likely to bridge the research-to-practice gap and promote fidelity. The online surveys, the interviews with families, and the conversations we had in the focus group and with the Ohio PLAY supervisors have provided important information about critical factors and fidelity. What about the role of the PLAY training practices (i.e., the exosystem in Bronfenbrenner's model)? In other words, were the training methods and strategies used by the PLAY Project consistent with practices likely to lead to a faithful adoption of PLAY?

The table below summarizes the previously described features and characteristics of effective adult learning methods most likely to promote implementation of evidence-based practices (Dunst & Trivette, 2012; Dunst et al., 2013):

<table>
<tr><td colspan="2">Dunst & Trivette (2012)</td><td>Dunst et al. (2013)</td></tr>
<tr><td rowspan="2">PLANNING</td><td>Introduce: Engage the learner in a preview of the material, knowledge or practice</td><td rowspan="6">✓ Active learner involvement;
✓ Demonstrations of the practices;
✓ Multiple opportunities to use the practices;
✓ Repeated instructor/coach-learner interactions that
o Provide feedback, guidance and support (the more immediate, the better); and
o Promote learner reflection on and self-assessment of mastery</td></tr>
<tr><td>Illustrate: Demonstrate the use of the practice to the learner</td></tr>
<tr><td rowspan="2">APPLICATION</td><td>Practice: Engage the learner in multiple opportunities to use the material, knowledge or practice</td></tr>
<tr><td>Evaluate: Engage the learner in a process of evaluating the consequences of their application</td></tr>
<tr><td rowspan="2">DEEP UNDERSTANDING</td><td>Reflection: Engage the learner in self-assessment of progress as a basis for identifying "next steps"</td></tr>
<tr><td>Mastery: Engage the learner in assessing his experience/ strengths/weaknesses compared to some external set of criteria</td></tr>
</table>

The PLANNING phase: What we heard from the participants is that the PLAY Project was highly successful in **introducing** the participants to the model: they were engaged and excited, and they understood and had "bought in" to the theoretical model. We also heard, however, that the participants felt they needed **more demonstrations and specific illustrations** about the various "practical" components of the model, e.g., what do you do when you're in the family's home? Given the ongoing challenges with fidelity, we also question whether or not the participants clearly understood which pieces and parts of the model were essential. In our questions about fidelity, the use of the PLAY techniques and activities typically was one of the highest components consistently used; however, other components were much lower. As one PLAY supervisor commented, "PLAY is more than just a tool in your tool box – it is a certification to deliver a specific program."

The APPLICATION phase: Given the 20 certification requirements, the participants were required to engage in **multiple opportunities to use what they had learned** in the four-day training. By providing additional options, the PLAY Project recognized different learning styles on the part of the participants, but perhaps at the expense of post-certification quality. In addition, during the video/report submission process, the supervisor-trainee interactions were typically unidirectional (the trainee received feedback from supervisor but **rarely had a chance to discuss the feedback or engage in self-evaluation**) and **feedback was far from immediate** (i.e., it could take several weeks from the home visit to submitting the report to receiving the feedback). As a result, the impact of the feedback on the trainee was likely diminished, and the time lag failed to give the trainee the opportunity to "self-correct" before the next home visit. These challenges were recognized by both the trainees and the PLAY supervisors.

The DEEP UNDERSTANDING phase: What is important during this phase is that the learner has a chance to reflect and self-assess on his/her own work; having an external set of criteria as a comparison is key. Although the group supervision/work days did promote collaborative support and help trainees connect with others, those opportunities (as well as the online quizzes) were about reflecting on someone else's work, **not reflecting on the trainee's own work**. In addition, without a detailed rubric for the report or a checklist for comparison that included a clear description of ALL the elements of the PLAY model,

trainees were provided **no way to compare their work to an external standard** on an ongoing basis. As one PLAY supervisor shared with us: "At the advanced training, certified consultants got their awards, and I still heard people talking about how they were nervous about going out and doing PLAY and not having ongoing support." In other words, despite having completed an extensive certification process, not everyone was feeling a sense of mastery of the PLAY model. Furthermore, without some kind of detailed external standard, consultants had no way to monitor their own fidelity post-certification in order to avoid "drifting" from the PLAY model. Another Ohio PLAY supervisor noted: **"Once you're certified, there's no one who sees your work again."**

OUR RECOMMENDATIONS

The people who shared their perceptions of PLAY with us (Certified Consultants, Consultants-in-Training, Consultants-No-Longer-Active, Administrators/Supervisors, Ohio PLAY supervisors and families) represented every region of the state that had participated in the PLAY Project training and every cohort that had been trained. As a whole, they were highly enthusiastic about and committed to the PLAY model, and we appreciate their honesty about aspects that might need improvement.

Has the Ohio PLAY Project training made a difference? Absolutely. Both the quantitative and qualitative data demonstrated positive impacts on the professionals and families in Ohio's early intervention system.

Successful completion of the training and certification process requires an intense commitment of resources from all involved: the trainees, their administrators/supervisors, the families, the Ohio PLAY supervisors, the PLAY Project staff in Ann Arbor, OCALI, and Ohio's Department of Developmental Disabilities. We were able to use three key concepts of implementation science to (1) identify critical factors that supported and/or hindered progress, (2) explore the question of fidelity to the PLAY model components, and (3) identify components of the PLAY training and certification process that were either consistent or inconsistent with effective professional development methods. In order to enhance future impacts of the Ohio PLAY Project training, we are making the following recommendations for the PLAY Project and for the Department of Developmental Disabilities.

Recommendations for the PLAY Project in Ann Arbor

1. **Define fidelity more clearly and consistently.**
    - Which model components are essential and which are not?
    - Which components can be adapted and which cannot?
    - What does fidelity "look like" for each essential component?
    - How much fidelity is enough?
2. **Convey fidelity more explicitly to trainees.**
    - Focus solely on model fidelity at some point during the four-day training.
    - Include in the four-day training a variety of examples that demonstrate what fidelity to each component looks like.
    - Develop a fidelity checklist (to be included in the training manual) that can be used by trainees to assess their own implementation of PLAY practices during certification and post-certification to support ongoing fidelity.
3. **Measure learning in addition to satisfaction during the four-day training.**
    - Develop measurable learner objectives.
    - Organize the training around the learner objectives.
    - Include the learner objectives in the powerpoint and training manual.
    - Refer to the learner objectives at the beginning of and throughout the four-day training.
    - Include an evaluation of the learner objectives in the participant evaluation form.

4. **Improve the consistency and quality of data collection.**
    - Without timely, thorough and complete data on the four-day training and trainee progress toward certification, the PLAY Project will find it difficult to demonstrate the impact of its implementation practices or engage in thoughtful, data-driven quality improvement. “Efforts to promote the use of any type of ECI practice require attention to not only the fidelity of the practice, but also the fidelity of the methods used to promote the use of the intervention practice” (Dunst et al., 2013, p. 86).
5. **Improve the supervision process during certification.**
    - Improve the consistency in how supervisors are recruited and trained.
    - Conduct periodic “fidelity checks” of supervisor feedback.
    - Monitor the time lag between trainee video submission and supervisor feedback.
    - Explore strategies to improve the immediacy of feedback.
    - Provide trainees with more detailed feedback (e.g., the report rubric instead of a single score) to help them analyze their own practices and “self-correct.”
    - Include trainee self-assessment as part of the supervision process.
6. **Revisit the certification requirements and the trade-offs between quantity and quality.**
    - How many video submissions are needed to demonstrate consistent fidelity?
    - Are the current alternatives really equivalent to a video submission?
    - How can the current alternatives include more opportunities for the trainee to reflect on his/her own practices?
7. **Create a new DVD to help explain the PLAY model to families.**
    - Shorter in length.
    - Consistent with change from DSM-IV to DSM-5.
    - Person-first language.
    - Video examples that represent a wider range of chronological ages (i.e., toddlers) and the entire spectrum of autism.

Joint Recommendations for the PLAY Project and the Ohio Department of Developmental Disabilities

8. **Explore how the PLAY model tested in the research “fits” into a statewide early intervention system.**
    - Is a monthly three-hour visit the best match for the developmental characteristics of toddlers and the schedules of families?
    - If not, what does “the equivalent” look like? Should the visits be more frequent? If so, how often should the videotaping/written report occur?
    - What other components can and should be adapted and to what extent? For example, which PLAY assessment tools should be used and how often? How often should the Visit Suggestion Report be left with the family? How often should the PLAY plan be revised?

Recommendations for the Ohio Department of Developmental Disabilities

9. **Develop guidance in response to the systems challenges identified by the participants.**
    - In counties where the PSP model is being implemented, what is the role of the professional implementing PLAY? Is that person considered the PSP, responsible for implementing PLAY and the IFSP outcomes? Or should that person focus solely on PLAY? If so, how will the rest of the IFSP be addressed?
    - What, if any, are the differences in "coaching" between PLAY and the primary service provider approach to learning as taught by Shelden and Rush?
    - Are there certain families and children who are a better match for PLAY? Should counties be developing a protocol? If so, what criteria should they be considering?
    - How does the PLAY paperwork fit into HMG and DODD paperwork requirements?
    - Would fidelity to PLAY be strengthened by having dedicated PLAY Consultants, either within a county or shared across counties?
10. **Revisit the requirements to participate in the PLAY training and certification process.**
    - Given the factors that support and/or hinder certification progress, should factors such as size of the county and/or number of toddlers diagnosed with ASD make a difference?
11. **Strengthen local administrative support for Consultants-in-Training and Certified Consultants.**
    - Continue to recommend administrator/supervisor attendance at the four-day training.
    - Consider linking administrators/supervisors new to PLAY with administrators/supervisors who have been successful in resolving local challenges and supporting their staff.
    - Develop and disseminate administrative strategies that have addressed the local "real world" challenges of PLAY (e.g., caseload guidelines for Consultants-in-Training and for Certified Consultants that accommodate the additional time required to insure fidelity of PLAY implementation).
12. **Strengthen the ongoing support provided to Certified PLAY Consultants to help them maintain fidelity.**
    - Continue and expand the regional meetings.
    - Explore strategies to build a mentorship network.
    - Consider developing a virtual PLAY Community of Practice.

In closing, the evaluation clearly revealed the many strengths of the Ohio PLAY Project training and certification process, and we anticipate that it will continue to have an impact on both the professionals and families who participated. We are confident that these recommendations can lead to an even more effective Ohio implementation of the PLAY model in the future.

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