A COMMUNITY OF PRACTICE PILOT PROJECT FOR DELIVERING EARLY INTERVENTION PROFESSIONAL DEVELOPMENT

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Abstract

To ensure the fidelity of implementation of early intervention (EI) services in natural environments (NE), new types of partnerships are needed to systematically address this challenge. This paper describes one approach for effective professional development (PD) in EI to address the lack of systematic supports and PD for EI providers working with families in EI. The Early Intervention in Natural Environments Community of Practice (CoP) project was a six month study that endeavored to support previously trained EI providers in refining the use of their everyday practices. Given the potential of this approach for improving practices and child/family outcomes in the USA as well as in Europe through the development, implementation, and sustainability of a comprehensive system of ongoing PD, the NE CoP program evaluation plan and preliminary results are shared in their entirety.

Key words: *early intervention, evidence-based practices, recommended practices, coaching, professional development, implementation science*

A community of practice pilot project for delivering early intervention professional development

Early Intervention (EI) in the U.S. is a system of coordinated services that provide critical aspects of prevention, intervention, and supports for young children with disabilities or who may be at risk for disabilities and their families. The contemporary model of EI focuses on providing services in the natural environments (NE) to the maximum extent possible for the child and family. The NE principles also reflect the evidence and recommendations in EI research, such as (a) routines-based, relationship focused, parent-implemented intervention (Dieterich, Landry, Smith, Swank, & Hebert, 2006; Jung, 2007; Kaiser & Hancock, 2003; Landry, Smith, & Swank, 2006; Web & Jaffe, 2006; Woods & Kashinath, 2007; Woods, Kashinath, & Goldstein, 2004), and (b) integrated services through the transdisciplinary team approach, which is based on the concept that the child is an integrated whole and can best be served coordinated, integrated services delivered by a primary service provider with support and consultation from a team of different disciplines (Bush, Christensen, Grove, & Nagy, 2009; Woodruff & McGonigel, 1998). In the state of Ohio, the EI program is currently in the midst of significant reorganization. As lead agency of the state, the Ohio Department of Health (ODH) has worked together with Ohio Department of Developmental Disabilities (DODD) to develop a new approach to service delivery and program evaluation within the state.

While Ohio, among other U.S. states, have embraced the shift away from serving children in clinics and other specialized settings, the communities are still far from full implementation of EI in the context of natural environments and practices. The EI providers have the responsibility of gaining a new set of specialized skills and competencies based on evidence-based practices to fully address the needs of children with disabilities and their families in the home and community settings. The term evidence-based practice is increasingly visible in the configuration of EI. The evidence-based movement is an international movement to increase

the use of research-based findings and effective practices at the community level in typical service settings. While research in the field of early intervention (EI) has begun to identify recommended practices (RP), evidence-based practices (EBP), and procedural principles that improve outcomes for infants and toddlers with disabilities and their families, there remains a gap between what we know the research says is effective and what actually happens in practice (Bruder, 2000). The need for specialized training and ongoing professional development that adequately prepares the EI workforce in the state-of-the-art NE practices is one of the most urgent needs at the community level in Ohio, simply because families and children in EI cannot benefit from the evidence-based practices they do not experience. The research-to practice gap is well documented in the field of social sciences, and we recognize that developing effective interventions and practices is only the first step for better family and child outcomes in EI. Transferring knowledge, and moving the effective practices into the real life practices of EI providers and family members or caregivers, is a more complicated and usually long term process. The final Part C regulations of the Individuals with Disabilities Education Act (IDEA), released in 2011, state that one of the roles of an early intervention service provider is "[c]onsulting with and training parents and others regarding the provision of the early intervention services described in the IFSP of the infant or toddler with a disability" (§303.12). Recognizing the importance of revitalizing EI in the state, over the past several years DODD, together with state-based advocacy groups, have funded a variety of projects that were meant to explore the feasibility, need, and direction of professional development (PD) into the future. One specific evidence-based practice that has gained attention and resource allocation within Ohio is the use of coaching (Hanft, Rush, & Sheldon, 2004; Isner, Tout, Zaslow, Soli, Quinn, Rothenberg, & Burkhauser, 2011) as a means of receiving PD and interacting with families. While the enabling policies, funding, professional credentialing, organizations, and state departments are important, although none of these systematic structures come in direct contact with the child and the family. It is the EI provider who will directly impact the outcomes of early intervention through his or her implementation of EBP and interactions with the family.

Further, it is believed that in order to obtain implementation fidelity, an implementation science perspective is required (Fixsen, Naoom, Blase, Friedman, & Wallace, 2008). Implementation science is a transdisciplinary field of the study of methods that promote the integration of research evidence into real life settings and practice (Fixsen, et al., 2008). In other words, implementation science seeks to identify what is necessary to bring research (evidence-based practices) in alignment with policy (at the local, state, and federal level) and practice (awareness of EBP, implementation with fidelity).

Implementation science (IS) ties the research to practice while generating knowledge that can be applied across variety of settings and organizational contexts. Addressing the fidelity of implementation is one of its key considerations, and understanding some of the bottlenecks of implementation is one of the main purposes of IS. Metz, Blasé, & Bowie (2007) have identified successful supports- known as implementation drivers- that improve the likelihood of the effective use of a variety of practices. One of the six successful drivers is *coaching*. The role of coaching as a critical implementation driver has changed our approach for PD in EI, as the shift is moving away from only measuring family and child outcomes as evidence of the effectiveness of intervention, to measuring the implementation of the EBPs by the EI provider. Coaching and mentoring include activities in pairs or small groups that include observation, prompting, instruction, modeling, feedback, reflection, and debriefing. Researchers have reported on the effectiveness of coaching (Bowman & McCormick, 2000; Kohler, Crilley, Shearer, & Good, 1997; Kohler, McCullough & Buchan, 1995; Sparks & Bruder, 1987;) and performance specific feedback to improve teacher practices at both the preservice and inservice level (Barton, Kinder, Casey, & Artman, 2011; Barton & Wolery, 2007; Brown & Woods,

2012; Casey & McWilliam, 2011; Casey & McWilliam, 2008; Hemmeter, Snyder, Kinder, & Artman, 2011; Marturana & Woods, 2010). One important distinction is that coaching as an implementation driver is done on the job instead of in a classroom, conference session, or workshop setting. Learning how to be an effective coach can also improve EI teams' ability to share their expertise with one another which is a critical competency for the implementation of a primary coach approach with fidelity (Sheldon & Rush, 2007).

Object of the research. A community practice for delivering early intervention professional development.

Purpose of the research. Purpose of pilot project was to empower families through a professional development community of practice that would support caregivers of young children receiving early intervention in using EBPs with their children.

The aim of the project – research was to use a coaching the coach model to improve the fidelity with which EBPs were implemented by direct service providers and families. In order to achieve these objectives and aims in the long-term, a program evaluation plan approach was used to examine the extent to which the Project demonstrated evidence of a promising approach to PD.

Project plan assumed that that the use of coaching would improve relationships, the fidelity of implementation of EBPs, and ultimately child and family outcomes**.** While understanding the differing behavior, needs, and practices of EI providers from one locale to another is not always easy, understanding the skills, competencies, and the quality of EI providers' interactions with families and children are key variables in the sustainable uptake, adoption, and implementation of EBPs.

Methodogy of Program evaluation plan. While there are a number of areas upon which the evaluation could have focused, it is important to narrow evaluation in a manner that ensures both feasibility and efficiency in the development, implementation, and evaluation process. The Project utilized an evaluation plan that is depicted in the logic model in Figure 1 and is tied to *outcome indicators* that are meant to serve as objective data upon which success could be measured. Similarly, the inputs, activities, and outputs depicted in the logic model are tied to *process indicators* that are intended to demonstrate the extent to which planning and ongoing implementation benchmarks were being met.

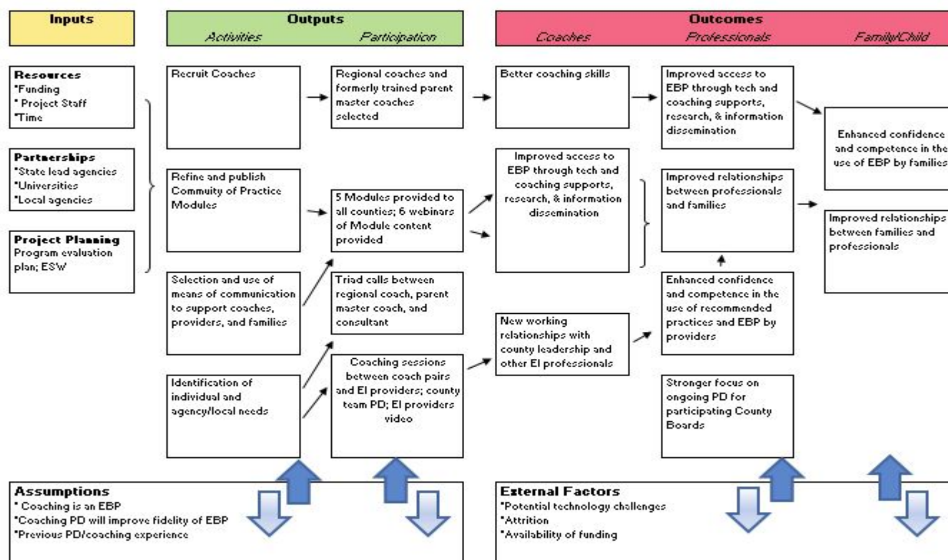

Figure 1. Initial Project Logic Model

As the Project was developed, implemented, and evolved over time, a variety of aspects needed to be examined. In these early stages, however, the focus of the evaluation was primarily on the development and/or refinement of the coaching competencies of EI providers. The justification for coaching competencies as the main focus was threefold:

1) competency in coaching improves professional collaboration, whether with team members, administrators, or families;

2) the improved skills in relationship-building provide for the optimal environment for building capacity within local EI programs through the fidelity of implementation of recommended and evidence-based practices though coaching interactions; and

3) the use of a coaching approach provides program staff, EI leadership, team members, and families with ongoing insight into the perspectives of one another.

To ensure that these outcomes had the potential to be met through the Project, evaluation questions that focused on the project process also had to be posed. Therefore, evaluation questions were situated in four main areas:

1) needs assessments;

2) program implementation fidelity;

3) coaching interaction fidelity; and

4) social validity (it should be noted that the Project was too short in duration to adequately measure child and family outcomes).

Table 1 describes the evaluation questions that we focused on during the Project. The Methods section describes the measures linked to these evaluation questions.

Table 1. Evaluation Plan Methods Grid

Evaluation Question	Outcome/Process Indicator	Resources Required	Method	Data Source	Person Responsible
Needs Assessments Is there a demonstrated need for focused and ongoing PD/TA in the areas of family-centered practice and teaming practices?	Process: Data related to the disposition and self-efficacy beliefs of practitioners across Ohio, within specific regions, and in individual counties	Participation of county EI leadership and teams Copies of needs assessments	Needs assessments to target PD	Competency Matrix FINESSE DEC Program Assessment	Consultant/ Regional Coach/Parent Coach triads

Evaluation Question	Outcome/Process Indicator	Resources Required	Method	Data Source	Person Responsible
Program Implementation Fidelity Were there sufficient interactions among and between state leadership, county leadership, EI teams/providers, families, and program staff? [What was the fidelity of program implementation regarding ongoing communication]	Process: Data related to the frequency, nature, and quality of interactions between stakeholders	Time and participation	Team meetings, triad calls, leadership calls/meetings (all leadership stakeholders), PD sessions, coaching sessions, social networks	Records of meetings (recorded or transcribed)	Project director; Consultant/ Regional Coach/Parent Coach triads
Were program action plans implemented as agreed upon?	Process: Data related to the nature of activities and deliverables agreed upon by leadership/ program staff (overall program) and/or triads (county-specific plans)	Development of action plans to meet weekly, monthly, quarterly, and yearly goals	Development and implementation of action plans	Copies of action plans with deadlines met indicated	Program director; Consultant/ Regional Coach/Parent Coach triads
Coaching Interaction Fidelity Did consultants, regional/parent coaches, and EI providers engage in coaching practices with fidelity?	Outcome: Data related to the quality of coaching, documented as frequency of recommended behaviors	Financial investment in regional/ parent master coaches Video or audio technologies to record coaching sessions Participation of EI providers and families	Coaching sessions between all parties are recorded using reliable video technologies	Videos or audio recordings of coaching sessions; behaviors observed or recorded on Coaching Observation Form	Consultant/ Regional Coach/Parent Coach triads EI providers (submit data to regional coach or consultant) Research Assistants for coding

Evaluation Question	Outcome/Process Indicator	Resources Required	Method	Data Source	Person Responsible
Social Validity Did all stakeholders find the program to be socially valid?	Outcome: Data related to the perceptions of stakeholders regarding the progress of the program and/or the effectiveness of the program	Participation of stakeholders	Focus groups, email/threaded discussion conversations	Transcribed focus group discussions	Program director/ Consultants/ research assistants

Adapted from the Centers for Disease Control and Prevention [CDC]: Developing an Effective Evaluation Plan (2011)

Methods of the research. The Project utilized a program evaluation plan approach, collecting and analyzing a mix of quantitative, qualitative, and program evaluation data to examine the effectiveness of the Project both in terms of our implementation process as well as the outcomes achieved by participant EI providers, coaches, and counties in the state of Ohio. In specific, we triangulated our data sources to determine the extent to which our Project achieved its objectives.

Recruitment and Participants. Project coaches (regional and parent) were selected from the population of previously trained coaches in the state of Ohio. Previously trained coaches that were eligible to participate consisted of occupational therapists, physical therapists, speech language pathologists, developmental specialists or early interventionists, and/or local supervisors/managers that had direct contact with children and families served through the Help Me Grow Early Intervention program in Ohio. Previously trained parent coaches were defined as parents of a child that receives EI now or had in the past, and who had participated in any past initiative in Ohio in which they were trained to work as coaches from the family perspective. Master consultants who would organize the Project and support coaches were doctoral students at Kent State University, one of whom assisted in the initial development of the Project and grant application for funding.

Ultimately, participants included two consultants (n=2), two parent coaches (n=2), and four regional coaches (n=4). Participating counties were not always the same counties represented by regional coaches. Three regional coaches supported their own county agencies, while one regional coach supported a county in a different area of Ohio. Not all of the counties received the same level of support; this varied dependent upon each county's needs assessments and leadership preferences.

Procedures/Sequence of Activities. After recruitment and selection of participants, parent coaches and regional coaches received ongoing PD support on several topics specific to EBPs in the field of EI. This PD occurred concurrent with parent coaches and regional coaches coaching EI providers and/or counties. The topics covered consisted of five learning modules that addressed key recommended and evidence-based practices. The topical modules were as follows: a) *Module 1*: Natural environment practice and agreed upon mission and key principles; b) *Module 2:* Evidence-based practices in coaching and mentoring (parents and EI providers); c) *Module 3:* Evidence-based practices in assessment; d) *Module 4:* Quality Individualized Family Service Plan (IFSP) development; and e) *Module 5:* Evidence-based practices in IFSP implementation and progress monitoring. During the Project, the content of these modules were delivered through a combination of online modules, webinars, EI team meetings, and county PD sessions. Each of the five modules was organized into three separate

tiers that were grounded in Bloom's taxonomy for learning (Bloom, 1956). The purpose of the tiered content was to provide EI providers with a wide variety of backgrounds, experiences, and expertise with a readily available selection of content that would meet their individual professional development needs. A different selection of reading materials, video content, interactive learning tools, and other resources were available within each tier. Throughout the modules, targeted questions were posed to EI providers through discussion threads and other means of online and telephone communication.

Coaching the coach model. Consultants provided support and individualized coaching to regional and parent coaches. There were a total of four *triads* consisting of a regional coach, parent coach, and consultant, with parent coaches and consultants working with two different regional coaches in separate counties. Each triad worked together as team to identify county needs and deliver effective PD. Consultants 'coached' the coaches regarding modular content and coaching behaviors to the extent necessary, while regional/parent coach *dyads* provided PD to each county by supporting EI providers (and sometimes teams) in learning modular content. The primary interaction of Project coaches with EI providers (and where applicable, teams) was the use of coaching. At minimum, each dyad worked with one selected EI provider in the county to provide personalized performance feedback and to coach the provider into becoming a coach not just with the families they served, but with colleagues on their EI team or throughout their county as well. Two of the four triads provided support to an entire county EI team as well. Additionally, videos were used to capture the coaching behaviors of EI providers with families. These videos served as the basis for the performance feedback that the provider received and was also shared with county EI teams to use as a model for discussion and to provide teams with the opportunity to coach one another.

Measures. Several measures were used to evaluate program outcomes and to encourage introspection among participants. In terms of the project evaluation plan, they were utilized for one of our four main evaluation focal points: 1) needs assessments; 2) program implementation fidelity; 3) coaching interaction fidelity; and 4) social validity. The relationship of each of the measures to our evaluation focus is detailed in the Results section in Table 4.

The measures used can be classified into two broader categories consisting of individual surveys and coaching interaction assessments. The surveys (which can be further stratified into program, provider, and family assessments) were provided to various program participants and are outlined in Table 2. The coaching interaction assessments consisted of self-checklists for program participants and coaching observation forms completed by program staff who coded behaviors and interactions observed on coaching session videos. Table 3 describes who completed each coaching interaction measure.

Table 2. Program, Provider, and Family Assessments

Program Assessments		EI Provider Assessments		Family Assessments	
Measure	Respondents	Measure	Respondents	Measure	Respondents
DEC Program Assessment *Pre	EI leadership at participating county agencies; select EI teams	EI in NE Competency Matrix *Pre and Post	Regional coaches, EI team members/ participating direct service providers	Family and Professional Partnership Scale *Pre and Post	Caregivers

Program Assessments		EI Provider Assessments		Family Assessments	
Measure	Respondents	Measure	Respondents	Measure	Respondents
FINESSE *Pre	EI teams at participating county agencies	FINESSE *Pre	EI teams at participating county agencies		
Focus Group[1] *Post	Participating regional and parent coaches				

Note: 1) Focus Group examined the perception that the Project was useful in improving practices *across the entire project* related to each of the five modules

Individual Surveys. At the program level, participating EI providers and regional coaches working with their own county (and as applicable, EI teams and leaders) completed the Families in Natural Environments Scale of Service Evaluation [FINESSE] (McWilliam, 2000) in order to assess the perceived strengths and needs of the county EI program, as well as EI providers', teams' and leaders' beliefs about specific EI practices and principles. Participants were also asked to complete the DEC Program Assessment (Sandall, Hemmeter, Smith, & McLean, 2005), which provides additional needs-based information about the perceived areas of need for PD.

At the provider level, the EI in NE Competency Matrix (Gatmaitan, 2012) is based on Seven Key Principles of Natural Environments (Workgroup on Principles and Practices in Natural Environments, 2008) and assesses coaches and practitioners' current level of perceived competency in implementing evidence-based processes and practices aligned with the seven key principles. The purpose of this measure is to assist EI providers in reflecting on their competencies and where they feel they need additional support. The FINESSE was also used at the provider level in order to provider strengths and needs and guide the parent coach and regional coach dyad's coaching approach to individual providers.

The Beach Center Family and Professional Partnership Scale [FPSS] (Summers, 2010) was selected in order to assess the level of partnership between the caregivers and direct service providers. The FPSS provides additional documented data regarding the extent to which providers and families believed their relationships improved as a result of the Project.

Coaching interaction assessments. Self-checklists (Gatmaitan, 2013) served to support participating EI providers, regional and parent coaches, and consultants to monitor the fidelity of their coaching interactions in an ongoing manner. The self-checklists were based on the Seven Key Principles of Natural Environments (Workgroup on Principles and Practices in Natural Environments, 2008), and were consistent with the Competency Matrix. These checklists were also used during discussions regarding previous coaching sessions to assist in focusing conversation on concrete coaching behaviors and examples. Coaching Observation Forms (Harjusola-Webb, 2012) were designed to be completed in order to serve as objective documentation of the fidelity of coaching, and outcomes from these forms would provide the basis for quantitative program outcome data related to coaching interactions. To date, while some of the coaching videos have been coded using the Coaching Observation Form, transcription and coding work is still ongoing. As such, this data has not yet been analyzed. See Table 3 for information describing the process of how this data was collected.

Table 3. Coaching Interaction Assessments

Who	What	
	Coaching Self-Checklist	Fidelity of Coaching Observation Form
Direct Service Providers	1. Reviewed video of session coaching parent 2. Documented personal coaching behaviors	N/A
Regional Coaches and Parent Coaches	1. Reviewed video of session coaching the direct service provider 2. Documented personal coaching behaviors 3. Reviewed video of session with direct service provider and parent 4. Documented coaching fidelity of the direct service provider	N/A
Consultants	1. Reviewed video/audio of session coaching regional/parent coaches 2. Documented personal coaching behaviors 3. Reviewed video of session with coaching dyad and direct service provider 4. Documented coaching fidelity of the regional and parent coaches	N/A
Research Assistants	N/A	1. Reviewed video session with consultants and regional/parent coaches 2. Documented coaching fidelity of the consultants 3. Reviewed video sessions with coaching dyads/triads and county EI teams 4. Document coaching fidelity of the coaching team 5. Reviewed video/audio of session with direct service provider and parent 5. Documented coaching fidelity of the direct service provider[1]

Note: 1) Coding by research assistants is not yet complete. Limited coding data available was included in the triangulation process for our preliminary results.

Results of the research. Once data was collected for each of the process and outcome indicators as described in Table 1, these data were analyzed and then interpreted in order to determine the extent to which program activities, outputs, and outcomes matched the initial logic model of the Project. In other words, data analysis and interpretation provided us with objective information regarding whether the EI in NE CoP project was being implemented as planned, as well as the extent to which the Project achieved targeted outcomes. The methods used for data analysis for each process and outcome indicator are provided in Table 4.

Needs assessments. As described previously, needs assessments were conducted to plan meaningful professional development to Project participants**.** Two regional coach/parent coach

dyads worked primarily with EI providers (developmental specialists, occupational, physical, and speech therapists) in the regional coach's county of employment and used the FINESSE and DEC Program Assessment to determine their program needs in implementing recommended practices in natural environments (Counties 1 and 2). The other two dyads worked with either one or two EI providers individually and provided professional development support to county teams through a coaching model (Counties 3 and 4); County 3 used the FINESSE with two participating EI providers as well as all members of the county's leadership and teams, while County 4 used the FINESSE and the DEC Program Assessment with the participating EI provider as well as the county team and leadership. As such, Counties 3 and 4 received detailed reports regarding the results of their needs assessments that drove the development of ongoing PD sessions for those counties. Across all four participating counties, EI providers, regional

Table 4. Data Analysis Techniques by Assessment Type

Data Analysis Technique	Person Responsible	Timeline
Needs Assessments		
Quantitative- transfer data from DEC Program Assessments, FINESSE, and Competency Matrices into Excel. Generate graphs for each measure by EI team	Master Consultant working with given EI teams	At beginning of work with each county
Program Implementation Fidelity Quantitative- Interaction among and between stakeholders: frequency, nature, and quality (descriptive statistics)	Master Consultants	Ongoing for fidelity; end of Project
Action plans: deadlines met vs. missed; program activities by county and overall (descriptive statistics)	Regional Coach/Parent Master Coach triads	End of Project
Coaching Interaction Assessments Quantitative – coded coaching observation forms: frequency counts of each behavior, graph generation comparing coaching behaviors of consultants, regional coaches, and EI providers	Research Assistants	End of Project (not yet completed; ongoing)
Qualitative- content analysis of self-checklists used for coaching performance feedback	Master Consultants	Ongoing for performance feedback to EI providers and coaches; end of project for cross-county trends
Social Validity Assessments		
Qualitative- transcription of focus group sessions	Master Consultants	End of Project
Qualitative – content analysis of focus group data	Project Director and Master Consultants	End of Project

Note: Table adapted from Centers for Disease Control and Prevention [CDC]: TB Support Program Sample Evaluation Plan (2003)

coaches, and EI teams and leadership (where applicable) expressed a need for support in the area of identifying and supporting family needs and outcomes.

Results of the FINESSE and DEC program Assessment for Counties 1 and 2 revealed that both regional coaches and EI providers expressed similar professional development needs in the areas of family-based practices, in particular listening to family aspirations and priorities and increasing providers' comfort level with family-centered outcomes for the Individualized Family Service Plan.

Results of the FINESSE in County 3 demonstrated the providers, teams, and leadership strongly felt that the largest discrepancy between perceived typical and ideal practice across team members and leadership was in the area of the development and support of family outcomes & goals and the identification of family needs, followed by the use of time during intervention planning meetings. Interestingly, the DEC Program Assessment revealed that the County 3 team felt they were strong in family-based practices in addition to interdisciplinary practices while they agreed they could use additional support in the area of child-focused practices. Based on these results, County 3 elected to participate in a modified version of the five modules the regional and parent coaches were engaged in with the consultants and Project director.

Results of the FINESSE in County 4 indicated that providers, teams, and leadership strongly felt that the largest discrepancy between perceived typical and ideal practice across team members and leadership was in the area of the development and support of family outcomes & goals, followed by the written descriptions of the EI program used in the county and the intake process of getting families and children started through the program eligibility process. The results also showed that the county generally agreed that an area of strength was in the selection of outcomes and goals for children. Based on these results, County 4 elected to support specific teams in these areas as well as to provide country-wide PD in the area of family outcomes and functional IFSP development.

Program implementation fidelity. Each month, key Project staff (including master consultants and the Project Director) met to discuss progress and outline plans of action for moving forward. Project staff met by phone with state leadership periodically to keep the state informed of Project progress. From February through June 2013, regional and parent master coaches participated in a total of six webinars (five which matched the Module content and one that served as a focus group) that were led by either the master consultants or the Project Director. Although most were held monthly, the first two were held in February. By mid-February, all triads (regional/parent master coach and master consultants) began to hold routine meetings. Triads from Counties 1 and 2 usually held bi-weekly phone conference meetings, while triads from Counties 3 and 4 met weekly. By March, all regional coaches had identified EI providers or teams to participate in the Project, at which time the needs assessments were conducted. By March and continuing in April, program needs and priorities were identified through the needs assessments and steps were outlined to address needs. Four Counties 3 and 4, detailed graphic reports were prepared for leadership and EI teams based on county results of FINESSE and/or DEC Program Assessment. In County 3, there was one meeting with all leadership, and in County 4 the leadership participated in all sessions provided to teams and also held calls with the triad about twice a month. County 3 received one in-person professional development session that was required by County leadership, one optional session that was open to any team in the county, and at least four additional sessions that were provided to specific teams. County 4 usually received professional development from the triad every other week beginning in May.

A total of three recordings were produced for each county every month. These included a) video samples of EI providers working with families submitted monthly once consents were obtained; b) video or audio recordings of coaching sessions between regional/parent master coach dyads and the EI provider; and c) audio recordings of sessions between triads during

which time master consultants provided performance feedback to dyads. In all instances, participants completed the coaching fidelity checklist.

Coaching interaction fidelity. Although the Coaching Observation Form has not been fully coded for all coaching interactions recorded for the Project, and as such has not yet been fully analyzed, data from the self-checklists EI providers, regional coaches, parent master coaches, and consultants completed underwent a content analysis to determine preliminarily the fidelity of the coaching interactions of participants. For example, within the coaching interactions in County 1, there was an increase over time in collaborative goal setting between the regional coach and the EI provider. The regional coaches in both County 1 and 2 were able to facilitate reflection on the part of the provider, such that the provider was able to think critically about her practice and generate alternatives for how to improve upon practice. In County 3, both the regional coach and the parent coach were able to work collaboratively as a team from a distance to provide ongoing coaching support to one EI provider who shared her coaching with families' videos with her county team during PD sessions. In this county, the regional coach, parent coach, and county were all located in different parts of the state. While the parent coach had more experience with coaching at the offset, the regional coach was able to quickly acquire skills such as always asking open-ended questions, reflecting content, and shifting coaching behaviors as needed by the EI provider and/or the EI team. By the end of the Project, the team in County 3 demonstrated an improvement in coaching practices as evidenced by interactions between one another and stated opinions from team members that the coaching videos of the provider with the family every couple of weeks had been helpful. In County 4, the regional coach also had limited direct experience in coaching prior to the Project, but she was quickly gained considerable confidence and competence in her coaching practice which facilitated significant reflection and a change in practice on behalf of at least one of the EI providers the dyad worked with. More objective and specific data on the fidelity of coaching interactions will become available once all of the recordings have been transcribed, the Coaching Observation Forms completed, and the data analyzed.

Social Validity (Focus Groups). At the end of the Project period, we conducted focus group discussions with the regional and parent coaches to elicit their perspectives on their experience. We conducted the focus group online through the Adobe Connect videoconferencing tool. Due to scheduling constraints, we scheduled two discussion times, each lasting approximately one and a half hours. We asked questions that helped us understand their perspectives on the content (e.g., the training modules), the process or procedures, the use of technology, suggestions for how the Project can be implemented differently, continued challenges, and future directions. The same questions were asked in each focus group. In this next section, we will share participant perspectives on outcomes for coaches, EI providers, and families, following the outcomes section of the logic model for this Project.

Coaches. *Better coaching skills.* Regional and parent coaches described improvement in their own coaching skills as a result of the Project. The use of video, according to coaches, played a significant role in the process. One parent coach shared how video-recording herself was a "powerful tool". Service providers' use of video also enabled them to reflect and coach the family. Another regional coach expressed that the use of video, combined with the Coaching Fidelity Checklist, facilitated positive changes in coaching behaviors over time.

Improved access to evidence-based practices. Through the training modules, the various levels of coaching supports, and the use of technology, regional and parent coaches expressed that they had greater access to current evidence-based practices compared to prior to the Project. Coaches shared that they have a broader knowledge base of evidence-based practices as a result of their participation in the Project.

New or enhanced working relationships. As the Project encouraged regional and parent coaches to reach out to other teams beyond their own, or even other EI programs to disseminate information and support fidelity, coaches expressed that they formed new professional relationships with county leadership and other EI providers. One regional coach felt that she had "more of a community" as a result of the Project. Another regional coach, who has had a working relationship with neighboring programs in Northeast Ohio, expressed that she has been able to share new and useful information with other leaders and stakeholders across the state as a result of her participation in the Project.

Providers. *Improved access to evidence-based practices.* Similar to the outcomes for coaches, providers also had greater access to evidence-based practices. For example, as a result of the needs of providers, Project personnel created an online workspace on Wiggio, in which providers could log into and access a variety of materials, start and join discussion groups based on questions or concerns. An external website that houses the modules was also created to enable providers outside of the Project to access materials. In one program specifically, the regional coach sent reading material to providers based on a topic or practice that providers identified they would like to learn. According to the parent coach, "feedback on the materials has been positive."

Improved relationships between providers and families. One parent coach described the changes she saw in the provider's interactions with families, evidenced in the videos. As the parent coach described, over time the provider learned how to be a better observer to truly understand the child and family.

Enhanced confidence and competence in the use of evidence-based practice by providers. Coaches shared the observation that service providers and teams are "really thinking about embedded interventions, the joint plan, what happens between [service provider's] visits, that naturalistic approach to learning and building upon family understanding."

*Stronger focus on ongoing professional development***.** County boards that participated in the program are focusing on efforts to sustain the work that was started in the Project to continue professional development for their providers. For example, one regional coach shared that her county plans to have monthly lunch discussion groups to continue having conversations about evidence-based practices. Another regional coach described how she has providers showing greater interest in the use of video to examine fidelity to evidence-based practices and further refine skills as a result of the Project.

Family/child. *Enhanced confidence and competence in the use of evidence-based practice by families.* One parent coach observed an increase in parent-child interaction in the family with whom she had worked during the Project, and an increase in the parent's sense of knowing how to support the child.

Improved relationships between families and providers. A parent coach shared how she saw there was "more conversation happening" between the provider and family (rather than the provider simply "telling" the family what to do.).

Discussion. In this Project, our aim was to develop, implement, and evaluate a multi-faceted professional development for early intervention providers and program leaders in different regions of the state. Our multi-faceted approach included the delivery of training content through various modalities (online synchronous interactions and asynchronous content), a framework for individualizing content for adult learners through a tiered system, the use of technology for delivering content and connecting with participants, a system of coaching supports, and the formation of a Community of Practice. Although the Project was exploratory and short-term, preliminary results from a case example and focus group data suggest that specific Project components have been impactful for participants.

Our preliminary findings are consistent with past research on PD. According to Malone, Straka, and Logan (2000), assessment of participant needs is an important component; participants should be able to make decisions about their needs for training and how to address those needs (Snyder et al., 2011). Through needs assessments, coaches were able to decide with their teams what areas to address and how to support those areas. The formation of a Community of Practice, in which individuals participate together to develop shared knowledge (Snyder et al., 2011), was also seen as a benefit of the Project. Internally, coaches formed a Community of Practice with fellow coaches and the consultants; externally, coaches either strengthened their sense of a Community of Practice with their respective programs and beyond. Another key component of PD that has been identified in the literature is coaching, in which the coach supports the learner in acquiring and mastering new skills through a process of joint planning to set goals, information sharing, instruction, modeling, practice, performance feedback, and reflection (Friedman et al., 2012; Moore & Harjusola-Webb, 2013). Coaches expressed that they were able to refine their coaching skills as a result of the Project. In addition, coaches and providers benefited from the use of video for observing performance (Marturana & Woods, 2012) and self-reflection. Our Project findings also suggest that a time frame of longer than six months may be necessary to truly lead to sustained changes. According to Snyder et al. (2011), PD approaches must be long-term. It is not yet clear what minimum length of time may be needed as this criterion may vary from one training context to another.

Implications. Our preliminary findings have various implications for early intervention providers, programs, policies, as well as for children and families.

EI providers. EI providers' competence and confidence in implementing evidence-based early intervention has a great impact on the quality of services delivered (Center to Inform Personnel Preparation Policy and Practice in Early Intervention and Preschool Education, 2007). Coaches who participated in this Project identified limited access to research as a barrier to staying up-to-date on current evidence and best practices. In addition to content, access to ongoing supports for providers can help ensure continued implementation of quality practices. Teaming is another area that needs to be supported to facilitate the exchange and sharing of knowledge, skills, and EBPs between and among team members. When each and every team member feels competent, confident, and supported in his or her delivery of evidence-based early intervention, child and family outcomes can be more fully promoted.

EI programs and policies. Overwhelmingly, coaches identified the critical need for a statewide system of PD. In a large-scale national study, only 39% of EI programs across the United States reported having systemic and sustained PD, and only 23% had technical assistance systems for PD (Center to Inform Personnel Preparation Policy and Practice in Early Intervention and Preschool Education, 2007). According to Bruder et al. (2009), the use of promising practices such as coaching has been minimal. Professional development must be ongoing, include content specific to evidence-based practices, and offer sustained supports in the form of coaching to promote skill development. As Malone et al. (2000) stated, follow-up supports are crucial, "because no professional development effort can be considered effective unless consumer gains can be demonstrated" (p. 58).

Children and families. Although child outcomes were not measured specifically, when caregivers are supported in their role they too will feel competent and confident in promoting their child's development. Families must feel engaged and be able to participate fully in services as empowered decision-makers and active members of the team.

Limitations. There were several limitations to the Project. First, the short-term time frame of six months limited the amount and duration of supports provided to participants. Second, there were specific constrictions with regard to recruitment, which limited the pool of possible participants from which to select. For instance, one program's leadership expressed

interest in participating, but did not meet the qualifications to participate. Another program met the qualifications, but declined to participate at this time due to program-specific circumstances. As a result, gaining entry into some programs proved to be a challenge. Third, the nature of the Project presented a challenge in terms of balancing individualization and adhering to a specific research protocol. Fourth, the small sample size does not allow us to generalize our findings to larger samples.

Recommendations. Based on the Project, we have recommendations for various levels of the EI system. At the level of the provider or team, it is important that individual providers or teams have the capacity to be agents of change. By advocating for increased access to PD and participating in communities of practice that support their learning and growth, providers and teams will be better equipped to implement EBPs with fidelity. To that end, a critical recommendation is a model for PD that is consistently provided to all providers and teams while also allowing for individualization to meet the unique and diverse needs of teams in their own local communities. High-quality PD that creatively utilizes technology (e.g., the use of video as a learning and reflection tool, synchronous means of interacting to overcome the boundaries of time and space) can connect providers to each other as well as connect providers to mentors (Marturana & Woods, 2012). Although these efforts can happen "from the bottom up", we also recommend initiatives "from the top down" for system-wide consistency and systems change.

Implementation science has been receiving much attention in the field of early intervention and early childhood special education. High-quality and effective PD is considered an important means for improving practitioners' implementation of evidence-based practices (Child Trends, 2010). Due to the multi-faceted nature of the Project and the combination of training approaches used, it is unclear which PD components led to which changes in practice. Although a combination of PD approaches is likely important, additional research is needed to truly understand which training practices are effective, for whom and in what context (Snyder et al., 2012).

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A COMMUNITY OF PRACTICE PILOT PROJECT FOR DELIVERING EARLY INTERVENTION PROFESSIONAL DEVELOPMENT

Summary

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Early Intervention in the U.S.A. is a system of coordinated services that provide critical aspects of prevention, intervention, and supports for young children with disabilities or who may be at risk for disabilities and their families. The contemporary model of EI focuses on providing services in the natural environments to the maximum extent possible for the child and family. The NE principles also reflect the evidence and recommendations in EI research, such as (a) routines-based, relationship focused, parent-implemented intervention and (b) integrated services through the transdisciplinary team approach, which is based on the concept that the child is an integrated whole and can best be served coordinated, integrated services delivered by a primary service provider with support and consultation from a team of different disciplines (Bush, Christensen, Grove, & Nagy, 2009; Woodruff & McGonigel, 1998).

The EI providers have the responsibility of gaining a new set of specialized skills and competencies based on evidence-based practices to fully address the needs of children with disabilities and their families in the home and community settings. While research in the field of early intervention (EI) has begun to identify recommended practices (RP), evidence-based practices (EBP), and procedural principles that improve outcomes for infants and toddlers with disabilities and their families, there

remains a gap between what we know the research says is effective and what actually happens in practice (Bruder, 2000). One specific evidence-based practice that has gained attention and resource allocation within Ohio is the use of coaching (Hanft, Rush, & Sheldon, 2004; Isner, et al. 2011) as a means of receiving PD and interacting with families.

One of the important fields of EI is *coaching*. The role of coaching as a critical implementation driver has changed our approach for PD in EI, as the shift is moving away from only measuring family and child outcomes as evidence of the effectiveness of intervention, to measuring the implementation of the EBPs by the EI provider. Coaching and mentoring include activities in pairs or small groups that include observation, prompting, instruction, modeling, feedback, reflection, and debriefing. **Object of the research.** A community practice for delivering early intervention professional development. **Purpose of the research.** Purpose of pilot project was to empower families through a professional development community of practice that would support caregivers of young children receiving early intervention in using EBPs with their children.

The aim of the project was to use a coaching the coach model to improve the fidelity with which EBPs were implemented by direct service providers and families. In order to achieve these objectives and aims in the long-term, a program evaluation plan approach was used to examine the extent to which the Project demonstrated evidence of a promising approach to PD. The Project utilized an evaluation plan that is depicted in the logic model and is tied to *outcome indicators* that are meant to serve as objective data upon which success could be measured. Similarly, the inputs, activities, and outputs depicted in the logic model are tied to *process indicators* that are intended to demonstrate the extent to which planning and ongoing implementation benchmarks were being met.

Methods of the research. The Project utilized a program evaluation plan approach, collecting and analyzing a mix of quantitative, qualitative, and program evaluation data to examine the effectiveness of the Project both in terms of our implementation process as well as the outcomes achieved by participant EI providers, coaches, and counties in the state of Ohio. In specific, we triangulated our data sources to determine the extent to which our Project achieved its objectives.

Discussion of the results. Multi-faceted approach included the delivery of training content through various modalities (online synchronous interactions and asynchronous content), a framework for individualizing content for adult learners through a tiered system, the use of technology for delivering content and connecting with participants, a system of coaching supports, and the formation of a Community of Practice.

Internally, coaches formed a Community of Practice with fellow coaches and the consultants; externally, coaches either strengthened their sense of a Community of Practice with their respective programs and beyond. Another key component of PD is coaching, in which the coach supports the learner in acquiring and mastering new skills through a process of joint planning to set goals, information sharing, instruction, modeling, practice, performance feedback, and reflection (Friedman et al., 2012; Moore & Harjusola-Webb, 2013). Coaches expressed that they were able to refine their coaching skills as a result of the Project. Project findings also suggest that a time frame of longer than six months may be necessary to truly lead to sustained changes.

Preliminary findings have various implications for early intervention providers, programs, policies, as well as for children and families and **recommendations** as well. Based on the Project, there are recommendations for various levels of the EI system. At the level of the provider or team, it is important that individual providers or teams have the capacity to be agents of change. By advocating for increased access to PD and participating in communities of practice that support their learning and growth, providers and teams will be better equipped to implement EBPs with fidelity. To that end, a critical recommendation is a model for PD that is consistently provided to all providers and teams while also allowing for individualization to meet the unique and diverse needs of teams in their own local communities.