



## Early Intervention in Natural Environments: A Five-Component Model

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“Spoon feeding in the long run teaches us nothing but the shape of the spoon.” E. M. Forster (quoted in Observer, London, October 7, 1951; Quotation 22673, The Columbia World of Quotations, 1996, <http://www.bartleby.com/66/73/22673.html>, retrieved 11/21/04)

I have conceptualized early intervention in natural environments (EINE<sup>1</sup>) as consisting of five components (McWilliam, 2000). They are not the only way of thinking about this topic (Dunst, Hamby, Trivette, Raab, & Bruder, 2000; Dunst, Herter, & Shields, 2000; Hepting & Goldstein, 1996; Rule, Losardo, Dinnebeil, Kaiser, & Rowland, 1998; Santos & Lugnugaris-Kraft, 1997), but they provide a useful bridge between philosophy and practice. There is indeed a philosophy of natural environments, which is akin to the ecological view of development and services (Bronfenbrenner, 1979, 1986; Gallimore, Weisner, Bernheimer, Guthrie, & Nihira, 1992; Lamorey & Bricker, 1993). Expressions of this philosophy do not necessarily lead to direct application; that is, it's easier to talk the talk than walk the walk, when it comes to EINE. At the practical end, however, we have policies that ban or dictate certain practices (e.g., in some places, no more self-contained settings) with early interventionists uncertain about the rationale. A theoretical approach to early intervention is almost as useless as an impractical philosophy. The five-component model attempts to avoid either problem. The five components are

1. Understanding the family ecology,
2. Functional intervention planning,
3. Integrated services,
4. Effective home visits, and
5. Collaborative consultation to child care.

What makes this a model is both that it is a comprehensive, coordinated system of service delivery, based on philosophy and research and that it has practical steps to put the philosophy into practice. It

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<sup>1</sup> In this article, I introduce the label EINE to describe a model that has been previously labeled the INTEGRATE model (after Project INTEGRATE) or the McWilliam model. EINE can be pronounced *eye-nuh*, in the German manner; in German, it is one of the forms of the word *one*, which is not a bad image for an integrated approach to service delivery.

is used by programs in Colorado, Texas, New Mexico, Nevada, and elsewhere; we constantly are surprised to hear about its implementation in places near and wide. Innovative policies recently issued in Florida and Kentucky bear the stamp of this model. Its prevalence attests to the fact that this is a socially valid, practical model.

The model was designed to address four problems in early intervention. First, there has been a pernicious slide towards overspecialization, with the common assumption that every need requires a service. Another assumption is that, if the child or family is eligible for the service, they should have to receive it. Second, many families and professionals alike have the erroneous belief that more is better. The “more” in question is either a greater number of hours a week of specialized services (e.g., therapy) or a greater number of services. The evidence, by and large, does not support that more hours of a specialized service or more services are better (McWilliam & Casey, 2004). Third, the quest for professionalism in the field has led to an objective distancing between professionals and parents. Students and employees are exhorted not to become enmeshed in families’ lives so they can be objective. I believe we should get as close as we can to families and then work on establishing distance as necessary. Fourth, home visits often look like a clinic- or classroom-based model has been dumped on the living room floor. This means that home visitors can be seen “working with” the child, rather than supporting the family so they can “work with” their child between home visits. These thought-provoking problems have led to the model described here. It is a new model comprised of many old ideas and some innovative ones.

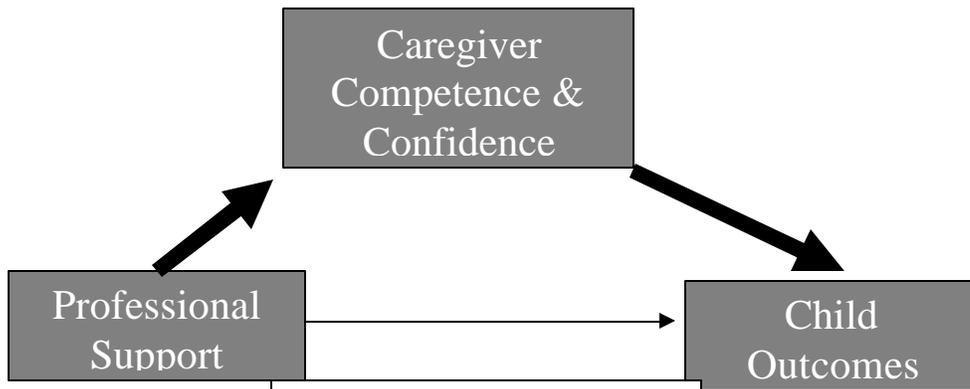
Research has found significant strengths in early interventionists. A strong predictor of outcomes of early intervention is the relationship of a primary service provider with the family (Minke & Scott, 1995; Singh, 1995). In fact, most families love their service providers (McWilliam, Tocci, & Harbin, 1998). The bad news, however, is that families’ love their service providers, even when they provide substandard services, so family satisfaction is a necessary but insufficient outcome of early intervention. In an evaluation of “Part H” services in North Carolina, we found that home-based service providers, especially generalists (i.e., those with education or child development backgrounds) used the most family-centered practices (McWilliam, Snyder, Harbin, Porter, & Munn, 2000). The positive qualities of personnel in early intervention are an asset to build upon.

The five-component model of EINE consists of a number of principles expressed as aphorisms, as described next.

- *All the intervention with the child occurs between specialists’ visits.* As will be described later, children do not learn in massed trials. They learn over time. Although the argument has been made that practice is essential for learning, I would argue that practice is what happens after acquisition of the skill, to make it fluent, to maintain it, and to generalize it. The acquisition itself does often involve “trial and error,” but for immature brains these need to occur over time through the day, not bunched together in a session. Children are therefore learning throughout the day, whether we want them to or not! That’s where the learning opportunities occur, so what should the relatively infrequent and short visits by professionals be concentrated on?
- *Therapy and instruction are not golf lessons.* This is related to how children learn and to generalization. Adults can take a lesson from a pro to, say, fix their short game. They can engage in massed trials, benefiting from every one as a learning opportunity, and they can carry what they have learned over to regular games without the pro. Little children can neither learn well from massed trials nor transfer skills well from one learning setting, especially a decontextualized one, to everyday life, where presumably they need the skills.

- *Regular caregivers (i.e., parents and teachers need to own the goals).* Who is providing children with learning opportunities between specialists' visits? These regular caregivers are not likely to address target behaviors in which they have little investment. For example, if they are expected to carry out a weird intervention that does not fit into their routines, especially addressing an outcome that came from a test and that has no direct relevance to the caregiver, they are not likely to carry it out.

At one time, the field of early intervention was organized as though it were about professional support (e.g., therapy sessions) leading directly to child outcomes (see Figure 1). Unfortunately, perhaps, this did not lead to large effects on developmental trajectories (Dunst, 1985).



**Figure 1. Pattern of influence.**

Caregivers, however, can exert much influence on how children turn out, because they spend many hours with the child every week. We in turn can have a profound pressure on caregivers' competence and confidence, because adults can learn in small time spans and can generalize. Our best route to child outcomes, therefore, is through caregivers.

Specifically related to home visits, it is the family-child interactions and other learning opportunities occurring between home visits that lead to child learning. This therefore forces us to consider seriously the purpose of the home visit.

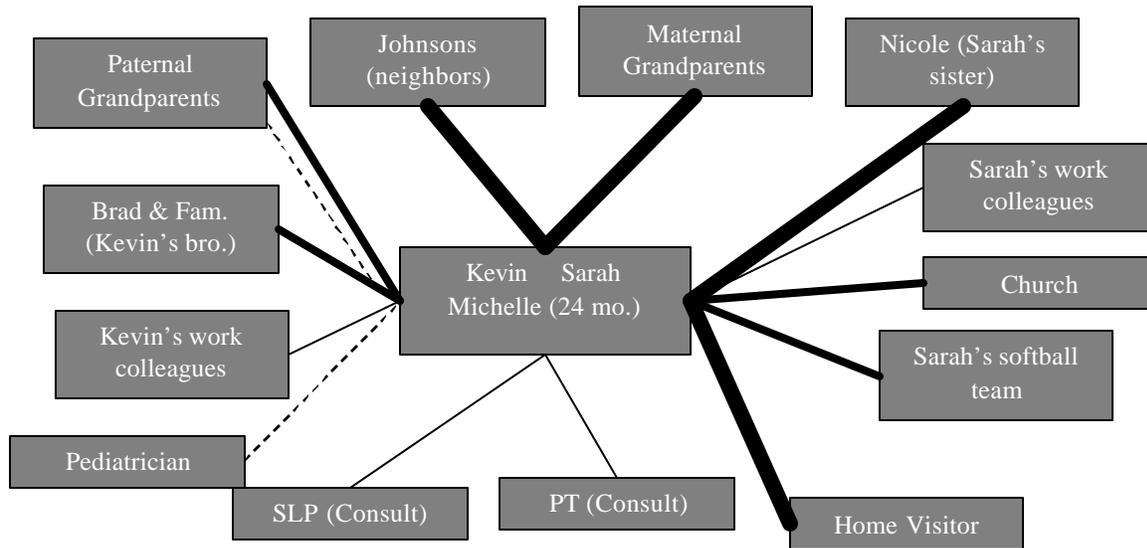
Effective home visits are one of the components of the model. The following table shows each component alongside the corresponding specific practice:

Model component	Specific practice
Understanding the family ecology	Ecomap
Functional intervention planning	Routines-Based Interview
Integrated services	Primary service provider
Effective home visits	Support-based home visits
Collaborative consultation to child care.	Integrated services

## The Ecomap

Various needs converge to result in developing ecomaps with families. We need a method to show we are interested in the family, not just the child. The reason we know the family is because of the child, but the child lives in a family, not a vacuum. We need to establish a friendly, interested relationship with the family. We need an alternative to the checklist method of doing intake visits. Developing an ecomap during intake visits or at some early point of acquaintance with a family can therefore be beneficial.

An ecomap looks something like the following:



The first people to determine are those living with the child. They are placed in the middle box and no questions are asked about intrafamilial relationships. It is important not to ask who the child's father is, who the mother's husband is, and so on. The way I do the ecomap involves putting informal supports above the family. So, commonly, questions are asked about the mother's family, the father's family, neighborhood and family friends, the mother's friends, and the father's friends. Intermediate supports include worship friends and work friends. Formal supports include doctors, teachers, therapists, and financial agencies.

To determine the approximate amount of support provided by each of these agents, one can ask such questions as

- "How often do you see or talk to them?"
- "How do you get along with them?"
- "If something cool happened with one of your children, who would you call?"

The thicknesses of lines represent three levels of support. The fattest lines represent very supportive agents, the slightly thinner lines represent moderately supportive agents, and the thinnest lines represent agents who are present but do not provide much extra support. We use dotted lines to represent sources of stress. It is possible to have a solid and a dotted line. See paternal grandparents in the example ecomap, where they babysat Michelle (quite a lot of support) but Sarah's mother-in-law also told her how she should be raising Michelle (stress). The ecomap is a valuable method for understanding the family ecology.

## The Routines-Based Interview

The needs for a routines-based assessment, of which the interview is the main practice, are numerous. A method is needed to produce functional goals or outcomes—also known as target behaviors. Functional child outcomes are those that address participation or engagement needs, that address independence needs, and that address social-relationship needs. It is also necessary to have a process resulting in families' priorities being reflected in the IFSP. Many IFSPs are still overwhelmingly child focused (Jung & Baird, 2003). Outcomes need to be broad enough yet specific enough. Strategies are needed to aim directly at the function problem (i.e., teach first). Finally, caregivers other than the family (e.g., teachers) need to be invested in the IFSP. The routines-based interview (RBI) can meet these needs.

The RBI evolved through two models, the currently described one for EINE and the Individualizing Inclusion (McWilliam, in press) model. The latter consists of three components: (a) functional intervention planning through the RBI, (b) therapy and consultative special education integrated into classroom routines, and (c) embedded interventions. The RBI therefore is central to both home- and classroom-based interventions.

In this model, *routines* are not activities the professional sets up with the family. Instead, they are naturally occurring activities happening with some regularity. They include both caregiving events and hanging out times.

Although we are reminded constantly that a good RBI will produce information far beyond a listing of daily events, it is true that not everything happens in routines. Hence, at the time of the interview, we ask first about major concerns the family has. At the end of the interview, we ask if there's anything else to be talked about.

The RBI as we have defined it was first described in *Family-Centered Intervention Planning: A Routines-Based Approach* (McWilliam, 1992). Five stages were delineated:

1. Family and staff preparation for the interview;
2. The routines-based interview itself;
3. Outcome selection by the family;
4. Writing of objectives and strategies by professionals with family input;
5. Review in subsequent months.

Preparation for the interview simply consists of asking the family and any child care staff to think about their daily activities and events and to consider how well the child functions in each of those "routines." They are alerted that the structure of the planning meeting will be routines. Forms are available in the book for those who like them! Another dimension of the preparation is who will be there and where the interview will take place. The family should be given free choice or a broad array of choices.

The interview itself begins with families reporting on their routines first. This sets the stage for respecting families' points of view. Child care staff report on "classroom" routines second, if the team is lucky enough to be able to interview both the family and the child care staff at the same meeting. One or two people can conduct the interview; it is helpful to have a second person to take notes; perhaps score a developmental tool, based on the reports of child functioning in routines; keep children occupied; and help ask questions. Any questions should be asked during discussions of routines; specialists do not have a time when they ask all the questions pertaining to their discipline. Professionals withhold giving advice, so they do not become the expert and change the

balance of listening. Because once the family starts getting advice, they are less likely to be forthcoming confidently about what goes on during their routines.

For each routine, the interviewer *indirectly* asks six questions:

1. What does everyone else do? For home routines, this means other family members; for classroom routines, it means other children.
2. What does the child do?
3. More specifically, what is his or her engagement like—how and how much does the child participate in the routine?
4. What is his or her independence like—how much can the child do by him- or herself?
5. What are his or her social relationships like—how does the child communicate and get along with others?
6. How satisfied is the caregiver with the routine? This is the big question. If desired, the interviewer can get a score for this satisfaction with the routine. The RBI Report Form (available through [www.VanderbiltChildDevelopment.us](http://www.VanderbiltChildDevelopment.us)) has a place to write a score from 1 to 5. For classroom routines, the question is not about the caregiver's satisfaction but about the fit between the routine and the child; again, the RBI Report Form has a 1-5 scale for this, if a score is sought.

Throughout the interview, the person taking notes, who can be the interviewer or the second person, writes down, in short notes, important information. The RBI Report Form has space for these notes. Concerns, which are potential outcomes, are especially noted. I put stars next to these, so I can find them easily when reviewing the notes. The RBI Report Form has a star to circle for this purpose. Note that these are not the parent's chosen outcomes yet—just concerns, of which there will be 10-20 in a typical interview. At the end of the interview, these are reviewed to remind the parent. The interviewer reads aloud these notes about potential problem areas, and the family selects 6-10 outcomes (i.e., goals). The family then puts these outcomes into priority order. This list is the product for which the interview was designed.

The RBI leads to more functional outcomes than do other methods, especially the well-meaning question. *What are your concerns?* That question usually yields a couple of vague statements about walking and talking. The other common method is to pick failed items from a test or curriculum, which might have little meaning in the child's and family's life. Outcomes from the RBI are functional because they specify what the child or family will do, the contextual need has been identified, and it is important to the primary caregivers—they picked them!

This process puts much trust in family decision making, leading some interventionists to be concerned about problems or delays a professional has detected. First, the interventionist should ask whether the problem is a *functional* concern. Just because the child cannot do one skill on a test does not necessarily mean that it has any meaning in the child's life. Second, the interventionist might be able to provide learning opportunities related to that problem into an existing outcome the family has chosen. Third, interventionists do have the ethical obligation to give families information, so, if they know a child is deficient in something and failing to work on it could hamper the child's progress, they should mention it. But they need to make sure their information is evidence based and not just early intervention lore that all deficits need to be worked on.

By producing 6-10 outcomes, the RBI tends to be more specific than many IFSPs (McWilliam et al., 1998) and tends to have more family-level outcomes. Here is one real list from an RBI:

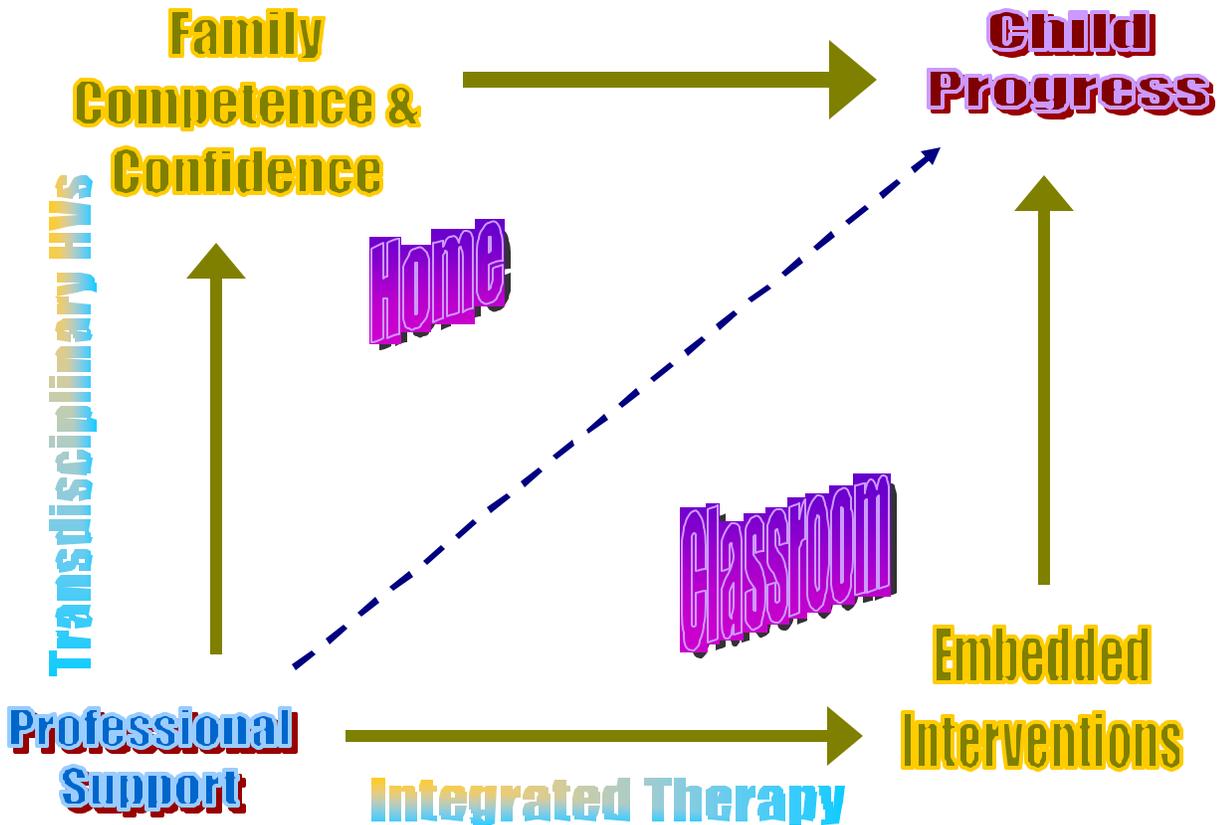
Original words from notes	Stated in outcome form
1. Moving on stuff outside & inside (e.g., going up stairs)	Elliott will play with movement on three pieces of equipment for 5 minutes each so he participates more
2. Textures outside	Elliott will play in the sandbox or move on the grass for 10 minutes 3 times in a row so he participates more
3. Why not eating more?	Family will find out from a qualified professional why Elliott does not eat more than he does
4. Eating variety of foods	Elliott will eat a balanced diet as determined appropriate by the family and a nutritionist so he will be healthy
5. Picking up food	Elliott will use a fine pincer grasp to finger feed so he can eat more efficiently
6. Making church easier	Mary will have 7 activities she can give Elliott or Katie to keep them occupied during church so church participation is easier for Mary
7. Making choices	Elliott will choose one of two objects presented at meals, dressing, or hanging-out time, daily for 5 days, to begin functional communication

**Table 1. Real List of Outcomes with Original Words and Restatement in Outcome Form**

Where does on fit in the ecomap and the RBI? This is a “local question” meaning the early interventionists or programs need to decide this, based on their systems. Most systems have a process involving a referral, an intake visit, a multidisciplinary evaluation, and IFSP completion. So professionals need to ask who does what, when. The answers might differ for children entering the system with established conditions (who therefore do not need to be *tested*, even though they need a *multidisciplinary evaluation*), with obvious delays (who therefore will definitely meet eligibility criteria for delays), and with suspected delays (who should probably be deemed eligible before proceeding with an RBI).

As we conclude the section on the RBI, we should state the four principles needed to understand this model:

1. It's the regular caregivers who influence the child, and professionals can influence the family;
2. Children learn throughout the day;
3. All the intervention for the child occurs between professionals' visits; and
4. It is maximal intervention the child needs, not maximal services.



**Figure 2. Model for early intervention in natural environments**

To explain this last distinction, intervention is learning opportunities afforded the child (Dunst, Figure 3. Herter, et al., 2000), and these naturally come from those who spend time with the child, such as parents, other family members, and child care providers. Services are the professional supports, provided intermittently (e.g., weekly) for short (e.g., 30-60 minutes) durations. These principles underlie the EINE model, which is shown in Figure 2.

As discussed earlier, early intervention was founded on a belief that professional supports would lead directly to child outcomes. Note that professional supports in the form of classroom teaching can still lead directly to child outcomes. But, in home settings, the path to impact on child outcomes is through caregiver competence—their knowing what to do—and confidence. This model uses transdisciplinary home visits as the best approach to achieve caregiver competence and confidence, as will be described in the next section. For children spending considerable time during the week in classrooms (e.g., child care settings), professional supports are best provided, according to this model, through integrated services, which will be described in the Collaborative Consultation section of this article. Integrated therapy and special instruction lead to embedded

interventions, which is what can have an impact on positive child outcomes. The model therefore shows that professional supports are most effectively used in working with the adults who can make a difference in the child's life.

### Primary Service Provider Approach

In the EINE model, one professional provides weekly support to the family, backed up by a team of other professionals who provide services to the child and family through joint home visits with the primary service provider. The intensity of joint home visits depends on child, family, and primary-service-provider needs.

It is designed to address some of the problems with the multidisciplinary approach, in which different professionals work directly with the child and family and rarely communicate with each other. First, the multidisciplinary approach implies that interventions for the child occur during the home visits, rather than between visits. Second, it implies that the family needs massive doses of demonstration, since that is a common rationale for all those visits. Third, it separates child functioning into domains related to disciplines, such as OT for fine motor, PT for gross motor, and speech-language therapy for communication. Fourth, it requires much family time, which is known as an “opportunity cost”—one rarely considered when programs talk about the cost of services. Fifth, it allocates scarce resources inappropriately, when most children receive multiple visits by multiple providers in a month or even in one week. The transdisciplinary approach, which is synonymous with PSP, is needed because (a) we need a method that emphasizes how children really learn, (b) we need a plan that is unified around the family's functional needs, (c) we need to capitalize on families' forming close relationships with a *primary* service provider, (d) we need to use specialists as efficiently as possible, and (e) we need to use our limited resources most effectively.

The primary-service-provider (PSP) approach works with the PSP alone, making most of the home visits, with occasional visits with a colleague—a team member representing another service. It works best if an RBI has been used to develop the IFSP, because the resulting list of outcomes is not driven by justification for a service but by family priorities. Either a generalist such as an educator or a child development professional or a specialist such as an OT, a PT, or a speech-language pathologist can be a PSP. When a combination of generalists and specialists is used, which will be the frequent case; generalists will spend most of their time on their caseload families, making occasional consults with others' families. Specialists, on the other hand, will spend most of their time consulting but being the PSP for a few families.

To decide who on the team should be a particular family's PSP, the team can consider at least three factors. First, they might consider geography, giving the family to a PSP who is already seeing families in that region. Second, they might consider caseload size, giving the family to a team member who has relatively fewer cases. Third, they might consider matching the PSP's interest or expertise. Aligning PSPs to families can occur in early intervention programs but is difficult to do in states using a vendor approach, where individual providers are contracted to serve Part C families. In those states, providers are extremely concerned about who gets the business; in fact, they might derail the approach because of this concern.

The PSP approach is not without its skeptics; in fact, some people are terrified of it! As Oscar Wilde said, however, “the basis of optimism is sheer terror.” And Helen Keller said, “No pessimist ever discovered the secret of the stars, or sailed to an uncharted land, or opened a new doorway for the human spirit.” Therefore, once specialists have recovered from their terror and become optimistic, not pessimistic, they will see the impact of this approach.

The approach is consistent with the principles articulated earlier that all the intervention occurs between specialists' visits (that's when children learn), that therapy and instruction are not golf lessons (young children cannot process massed trials and cannot transfer skills effectively), and regular caregivers (not specialists working directly with the child need to own the goals).

Despite common practice, services should be decided only after outcomes have been decided upon. With the PSP approach, deciding on services is largely based on how much help the PSP needs to address each outcome. For example, consider the outcomes listed in Table 2, which are listed in the mother's order of importance. The team would determine who the PSP would be and then would ask how much help that particular PSP needed to support the family in teaching Bryce to communicate. If either the PSP or someone else on the team felt that the PSP needed help, the next question would be who that helper should be. Sometimes, that would be decided on the basis of discipline (i.e., the person with the appropriate training) and sometimes it would be decided on the basis of aptitude (i.e., the person who had the most interest or background, which might be different from formal training). If Bryce's service coordinator was a very experience early intervention provider, she might not need a speech-language pathologist. On the other hand, if Bryce's service coordinator was someone right out of school who did not know how to address these outcomes, the PSP and the speech-language pathologist might agree that SLP would be on the list of services. They would then ask the intensity question: How often would the PSP and the family need the SLP to visit to get the communication program started? Again, that would depend on the PSP's confidence. Having answered these questions for Outcome 1, the team would consider what services were needed for Outcome 2. Again, the question would be the extent to which the PSP would need help in supporting the family to teach Bryce to walk without falling. These questions would be asked down the list of outcomes.

This decision making has a considerable impact on patterns of services, generally resulting in slighting of services and much less intensity of those services. The non-PSP services, after all, make visits only when needed or at dispersed intervals. The child and family, however, still receive frequent contacts from the PSP who is supporting the family on all the outcomes. By having outcomes related to the functioning of children and families in routines, rather than outcomes related to domains (because of failures) or disciplines, unnecessary service time is eliminated.

Table 2. One mother's priorities for her family.

1. Bryce will communicate at mealtimes, in the morning, and in the evening, and his needs and wants at any time
2. When Bryce walks fast, inside, and barefoot, he will do so without falling
3. Bryce will put on his shirt independently and pull up his pants
4. Bryce will play and listen to stories without sucking his thumb
5. Bryce will help with bathing
6. Sandy will teach Calista to communicate without screaming
7. Sandy and Rusty will find acceptable child care for the children so they can spend time together without the children

When making decisions about services, it is advisable to watch for three kinds of professionals:

The PSP who lacks confidence or tries to curry favor with specialists (e.g., "I need these people all the time"). This so-called need for constant consultation could result in every PSP visit being a joint home visit, which will be described later.

The specialist who cannot release his or her role (e.g., no one else can support the family in carrying out these interventions but moi").

The specialist who confuses intervention with service (e.g., “This child needs therapy more than once a month”).

The main opportunity for consultation between the PSP and other team members, who here I am calling “specialists,” is the joint home visit. The specialists join the PSP (a) to conduct assessment through a variety of means (b) to provide intervention suggestions, and (c) to model and give feedback as appropriate. Meanwhile the PSP (a) asks questions, (b) ensures the family understands, (c) ensures the specialist understands, (d) takes notes, and (e) handles interruptions.

This approach will be reflected on the service grid of the IFSP. Often, the PSP will be assigned to visit the family weekly, which is probably a reasonable recommendation for the default intensity for all families. It can and should be adjusted as appropriate. Specialists might be needed frequently for the short term, but then backed off to one joint home visit every 1-3 months. Flexibility is the key.

Joint home visits are focused on “consultation” from the specialist around needs related to functioning in routines. The four goals are

- To determine the problem contributing to the routines-based need;
- To provide information that will enhance intervention between home visits;
- To provide other information; and
- To enhance the competence and confidence of the caregiver and the PSP.

To implement the PSP approach, therefore, the team should decide on services, including intensity, based on the needs of the caregiver and the PSP. They should use the transdisciplinary or modified-transdisciplinary approach. I use the latter term to refer to a structure in a program where generalists are the usual PSPs and the former term to refer to a structure where generalists and families are all PSPs, providing a limited amount of time consulting with each other (see Table 3). The modified-transdisciplinary approach is often used where generalists are aplenty but specialists are few, and most specialist visits occur jointly with the PSP. In either model, there should be no more separate visits by different professionals to the home.

**Table 3. Distribution of visits for pure- versus modified-transdisciplinary approaches by discipline**

Discipline	Pure transdisciplinary		Modified transdisciplinary	
	% visits as PSP	% visits as consultant	% visits as PSP	% visits as consultant
Generalist	75	25	75	25
Specialist	75	25	25	75

One benefit of the PSP model is that the family receives strong support from one person, not having to get to know multiple providers. A second benefit is that the program for the child and family is coordinated, not fragmented. A third is that, weekly, the family has to host only one visit in the home, not multiple visits. A fourth is that service providers, especially therapists, can serve more families. A fifth is that the cost to the system is reduced, so more families can be served more flexibly. In states using a dedicated service coordinator, if money can be saved, more service coordinators can be hired and families can receive better service coordination. A sixth benefit is that we can expect at least the same outcomes for the child as we would see with the multidisciplinary model but better outcomes for the family—and lower costs.

Is autism a special situation? Children with autism, according to the National Academy of Sciences report (Lord & McGee, 2003) need 25 hours of intervention a week. Assume that intervention is the same as learning opportunities and that learning opportunities for children with autism consist of

learning contingencies as well as learning to respond appropriately to discriminative stimuli. Then learning opportunities can and, whenever possible, should be provided throughout the day in naturally occurring routines. This is not the same as saying that children with autism need 25 hours of *service* a week. Learning opportunities do not necessarily mean direct hand-on instruction from a paid professional or lessons out of context, especially for toddlers and preschoolers. If the regular caregiver can provide this intensity of instruction, the child can benefit. If not, the team needs to determine what resources are available.

For the PSP model to be implemented, some PSP issues need to be addressed:

- Referral sources and families often have a basic misunderstanding about how early intervention services work (i.e., the more-is-better belief);
- Providers fear a loss of revenue; and
- Myths about transdisciplinary service delivery (e.g., it violates “scope of practice”) abound.

### **Support-Based Home Visits**

Many home visits are little more than a clinic-based model dumped on the living room floor. Many involve a toy bag. Many ignore the complex, interrelated needs of developing children and their families. An alternative is based on the view of *support* as the goals of services.

Three types of support have been identified as a basis for family-centered home-based early intervention (McWilliam & Scott, 2001): emotional, material, and informational. In a study of family-centered service providers, five characteristics were identified: positiveness, responsiveness, orientation to the whole family, friendliness, and sensitivity (McWilliam et al., 1998). These characteristics define both how to behave with families and what to talk to them about. They can be considered the distillation of emotional support. Material support consists of two general categories: (1) equipment and materials and (2) financial support. Informational support consists of four kinds of information most families want: (1) child development, (2) the child’s disability, (3) services and resources, and (4) what to do with the child. A far-reaching idea behind EINE is that “therapy” and “special instruction” are really the provision of support. The modern interventionist gives families information about what to do with the child. He or she also provides the other types of information, ensures they have materials to accomplish their goals, and is encouraging and in other ways emotionally supportive. Home visits that concentrate on direct, hands-on intervention with the child, without attending to the dimensions of support, are narrow and probably somewhat inconsequential. Fortunately, many home visits do provide support but perhaps have not framed it in quite this way. The support-based approach to home visiting therefore defines the structure for good service delivery. It puts therapy and special instruction into a logical context.

Some home visitors will not, however, be able to do this without the toy bag. To help make the transition from activities emerging from the toy bag to a support- and routines-based visit, the Vanderbilt Home Visit Script (McWilliam, 2004) has been developed. The overview of the script is as follows:

1. How have things been going?
2. Do you have anything new you want to ask me about?
3. How have things been going with each IFSP outcome, in priority order?
4. Is there a time of day that’s not going well for you?
5. How is [family member] doing?
6. Have you had any appointments in the past week? Any coming up?
7. Do you have enough or too much to do with [your child]?

For each question, the following follow-up prompts are provided:

1. The 4 Es: Ears (listen), Elicit (ask), Empathize, Encourage
2. *Do you need any information to help with this?*
3. *Should we try to solve this?*
4. *Would you like me to show you?*

These leading and follow-up questions at any time can generate discussion between the home visitor and the family that results in the home visitor's assessing the goodness of fit between the child and a given routine and demonstrating an intervention for the family. Many home visits will never proceed further than half-way through the script. But home visitors addicted to the toy bag will need the alternative crutch of the script.

### **Collaborative Consultation to Child Care**

The "home visitor" in early intervention also visits children in group care settings such as child care and preschool. Here, natural caregivers are the child care providers or preschool teachers. These are the people, in addition to the family, who spend enough hours with the child to make a difference in the child's developmental trajectories and acquisition of skills.

The early interventionist going to a child care program<sup>2</sup> is a specialist, even if considered a "generalist" in home visiting. Other specialists are OTs, PTs, and speech-language pathologists. The specialist can provide early intervention in six ways: (a) one on one pull out, (b) small-group pull out, (c) one on one in classroom (also known as pull aside or push aside), (d) group activity, (e) individualized within routines, and (f) pure consultation (McWilliam, 1996). This can be considered a continuum from most segregated to most integrated. In a 2-year study of 80 young children, the most effective of the first five methods was individualized within routines, followed by group activity (McWilliam). (Pure consultation was excluded because reimbursement was often difficult for this essentially hands-off method.) These were the most effective presumably because the teachers were able to learn what to do with the children and carry out the interventions between specialists' visits. Furthermore, specialists were able to learn from teachers how best to work with children in the classroom context.

There are key ingredients in successful integrated services in classroom programs. First, the specialist should communicate with the teacher about expectations. They should each discuss what they would like the other to do when the specialist is present. Second, the specialist should establish ground rules to maximize impact and minimize inadvertent sabotaging. Ground rules can be that the specialist will remain in the classroom, at least one teacher should pay attention to what the specialist is doing, that routines will be adjusted if necessary to accommodate the specialist, but the specialist will not disrupt existing routines. Third, the specialist should be humble. This humility includes respecting the fact that the teachers spend hours with the children, including the "client" child, and it is their environment. Fourth, regardless of what method is used, the specialist should communicate with the teacher. Research has shown that four times as much communication occurs in the in-class methods (McWilliam, 1996). Fifth, the team should use routines-based assessment to have functional goals. It is much easier to integrate functional outcomes than nonfunctional ones, and teachers are more likely to embed strategies for functional outcomes. Sixth, the specialist should use collaborative, not expert, consultation. This means deciding *with* the teachers (a) what the problems are, (b) what the solutions are, and (c) whether the solutions are working. These key ingredients will help with the implementation of an integrated approach.

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<sup>2</sup> "Child care program" is used to refer to all kinds of group care arrangements where specialists make visits to provide early intervention.

## Conclusion

The use of EINE has implications for practice and for training:

First encounters, such as the intake visit, need to emphasize the family;

Interventions should address real-life, day-to-day needs;

We should maximize interventions or learning opportunities, which are not the same as “services”), for children;

Home visits need to be focused on emotional, material, and informational support; and

Consultation to child care needs to ensure that teachers embed interventions.

These implications make so much sense that one might wonder how they differ from common practice. At intake, the EINE model involves listening to families as much as talking to them. This is a time to understand the family ecology, and developing an **ecomap** is a practice that can be used to arrive at that understanding. At evaluation, the model involves testing for eligibility as efficiently as possible so time can be spent instead on assessment for intervention planning. Functional intervention planning can occur through the use of the **routines-based interview**. In IFSP development, it involves more specificity and more family needs addressed in the outcomes. In service delivery, the EINE model involves an efficacy and efficiency through the use of the **primary service provider** approach. To be effective in home visits, early interventionists can focus on **support**, including informational support. Finally, to provide services to children in group care settings, they can use **integrated approaches**, such as individualized within routines, to ensure that teachers embed interventions between visits. If these five practices are adopted, we can expect families to be competent and confident and therefore able to make the most of the learning opportunities they afford their children. In addition, the embedded interventions by group care providers will increase the learning opportunities in that setting. The results we can expect are a higher quality of life for families, owing to increased satisfaction with their routines, and more engagement, independence, and social relationships in the children.

The EINE model’s five components do not spoon-feed early interventionists but they do provide more than the shape of early intervention. Through policy, management, study, training, and implementation, the field can provide early intervention in natural environments to achieve results.

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