II CRITICAL COMPONENTS OF PERSONNEL PREPARATION

Certain elements are often described as the ''givens'' in effective personnel preparation, regardless of the content or the target audience. These include the importance of an overall design plan that encompasses needs assessment, evaluation, follow-up, and the promotion of lifelong learning through collegial support and supervision. This section provides practical information and strategies related to these key elements of personnel preparation.

5 DESIGNING EFFECTIVE PERSONNEL PREPARATION FOR EARLY INTERVENTION

Theoretical Frameworks

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Every personnel preparation program, whether preservice or inservice, is at the interface between the organizational and ecological realities and the individuals whom the program serves. Chapters 1–4 firmly establish that training is embedded within a broad ecosystem formed by mutual influences among recommended practice, federal and state law and policy, actual practice in the state and community, and each training program's own history and traditions. The interdependence within and among system levels is clear; early intervention training will have little effect except when viewed as part of a complex, ongoing change process across components of each training program's ecosystem. Similarly, individual participants bring to the training program their own unique sets of characteristics and ecologies. The designers of personnel training programs must acknowledge both context and participants, with the goal of delivering the desired content through program processes that maximize the balance between the two.

As used in this chapter, the term *training program* describes a planned array of learning opportunities designed to increase the match between personnel performance and the roles that personnel fill. Any program, whether preservice or inservice, incorporates learning structures, events, and activities developed to achieve specific learning outcomes. Programs may be short or long term, single or multifaceted, and they may occur at any point in the course of the participant's professional development. The central defining feature of a personnel training program is that it is implemented with the intent of developing or altering the professional behaviors and characteristics of its participants. This chapter addresses issues confronted by designers of both preservice and inservice programs, with an emphasis on the selection and design of training contents and processes.

Generally, the term *preservice* refers to professional development efforts that prepare individuals to perform the entry-level functions of their disciplines or professions, whereas *inservice* refers to professional development activities undertaken to assist the more experienced professional in expanding and growing within the profession. The distinctions between preservice and inservice ordinarily carry with them some important assumptions that influence program design decisions. For instance, assumptions about preservice and inservice are relatively automatic with regard to the purposes of training, the amount of

professional knowledge and experience that participants already hold, the importance of training within the participants' life contexts, and the amount of time available for training. Assumptions also are made about the source of the training (university or non–university based) and the temporal relationship between training and application (future application or simultaneous application).

When broad change in practice is occurring, requiring that individuals already in or entering a field of service be extensively retrained, distinctions between the functions and audiences of preservice and inservice programs are likely to become blurred. In such times, both preservice and inservice programs are likely to enroll participants with a much broader range of characteristics and professional goals and to be wider in scope and purpose than is implied by their traditional definitions; this point is examined in greater depth later in this chapter.

Early intervention training may present some unique challenges to both preservice and inservice program designers. As illustrated in Janet's story in Chapter 1, the knowledge, skills, and attitudes desired for early intervention may be qualitatively different from those of the individuals who emerge from disciplinary training programs. The roles of early interventionists are still unfolding, yet it is clear that these roles are quite complex, blending the content of many disciplines and changing the ways in which service delivery is planned and implemented by a member of any discipline (Winton, 1990). Another layer of complexity is added by the multiple configurations of settings, policies, and people that compose early intervention services within and across states (McCollum & Bailey, 1991; McCollum & Hughes, 1988); in many ways, early intervention training must prepare personnel for the unknown. In addition to conveying specialized content, training must accomplish each of the following:

• Foster the values and attitudes that undergird recommended practice in early intervention
• Address interdisciplinary audiences and include interdisciplinary perspectives
• Be relevant and practical in an everchanging system
• Address uncertainties and fears associated with rapidly changing systems

Components common to all training programs include input variables such as program settings, characteristics of trainers, and characteristics of participants; program content, including desired outcomes and the curriculum to be presented; and program process, including program structure and organization as well as specific instructional strategies employed within the larger structural elements (Cruickshank, 1984; Katz & Raths, 1985; McCollum & McCartan, 1988). As is demonstrated in this chapter and in Chapter 21, the process of program design in both preservice and inservice may be viewed as an interrelated series of decision points, each with its own alternatives. There are no easy routes to making these decisions, as solutions depend on the unique configuration of needs, resources, and contexts of the particular program, as well as on anticipated or known characteristics of potential participants. Contextual factors in particular may constrain the range of options open to program designers, influencing the specific options selected and the ways in which these are linked to one another to form the total program. As discussed in other chapters of this book (see particularly Chapters 1–4 and 17–21), such factors might include the licensing and practice guidelines of the particular discipline, the historical and anticipated relation of the projected program to these guidelines, and the historical mission and function of the training program in the state. The availability of resources

within the organization or agency offering the training and the priority given to early intervention training compared with other areas of focus are additional contextual variables influencing these decisions. Fortunately, many of these constraints and parameters are known, and guidance is available from multiple sources, as illustrated throughout this book.

This chapter emphasizes program content and process, as these compose the core of program design; outlines decisions and options within each of these two components as they apply to both preservice and inservice; and offers a framework for making design decisions. Finally, the implications for program design when the lines between the traditional purposes of preservice and inservice training blur are considered.

COMPONENTS OF PROGRAM DESIGN: CONTENT AND PROCESS

In early intervention, new roles and new visions of service delivery directly influence both what early interventionists do and how they do it (McCollum & Thorp, 1988; Winton, 1990). For instance, early interventionists must know not only how to perform an assessment but also how to do so in a manner that includes the family as a central player. Therefore, the curriculum content must include values and early intervention philosophy in addition to specific bodies of knowledge and skill. This range of content in turn requires a systematically planned training process.

Choosing and Organizing Early Intervention Training Content

Each program selects early intervention content within the parameters and constraints defined by its own traditions and contexts. However, traditional sources of content may not be sufficient when new approaches to practice are emerging or when new populations, such as infants and toddlers and their families, become part of the population to be served. As early intervention is further defined and understood, various sources of content must be examined critically to determine whether they are compatible with new roles that interventionists are experiencing and with new visions of service delivery. In every discipline providing early intervention services, new roles and visions will inevitably create tension with existing instructional content.

Table 5.1 contains a set of guiding questions that may be useful in making decisions about content. At a broader level, delineating curriculum content involves two highly interrelated decisions, to be addressed in the following sections: 1) determining important knowledge, skill, and attitudinal outcomes to be developed, derived from an understanding of the roles and functions to be performed; and 2) delineating the breadth and depth of content required to address the desired instruction outcomes.

Early Intervention Roles and Training Content   Desired outcomes of instruction are those characteristics and abilities that allow existing and future early interventionists to fill their roles in accordance with emerging visions of recommended practice. A significant amount of attention has been given to the roles of early interventionists, to how these roles differ from and are similar to roles traditionally performed by individuals from various disciplines, and to how roles compare across disciplines. From this examination has emerged a vision of early intervention service delivery and of the professional orientations, attitudes, knowledge, and skills needed to achieve this vision (Bailey, 1989; Fenichel & Eggbeer, 1990). Professional organizations interested in early intervention (e.g., Division for Early Childhood of the Council for Exceptional Children, National Association for the Education of Young Children, & Association of Teacher Educators,

TABLE 5.1. Guiding questions for determining content

1. Do desired knowledge and skill outcomes reflect current and expected early intervention roles and functions?

2. Do desired outcomes include professional orientations and attitudes reflective of recommended practice in early intervention?

3. Do desired outcomes include processes such as decision making, problem solving, and reflection on practice?

4. Are similarities and differences between within- and cross-discipline roles and desired outcomes clear?

5. Do the array and organization of content areas match desired outcomes?

6. Do the breadth and depth of content match desired outcomes?

7. Is content organized to maximize linkages among knowledge, skills, and professional dispositions?

8. Are areas of content organized to maximize linkages among them, as well as with existing knowledge?

9. Does the sequencing of content reflect systematic building toward desired outcomes?

10. Is transfer of desired outcomes to practice reflected in the selection, organization, and sequencing of content?

1995), as well as some states (e.g., Zervigon-Hakes, 1991), have developed lists of competencies needed by individuals delivering early intervention services. As desired outcomes, such listings can lend significant guidance to the selection of training content.

Early intervention personnel fill a broader range of roles with respect to children, families, other team members, and participating agencies than might be expected solely from their respective disciplinary backgrounds (Bailey, 1989). These roles also may be configured differently depending on the particular system in which the individual works, and many roles are shared among disciplines (McCollum & Hughes, 1988). Even traditional disciplinary roles often require new skills related to the developmental status of the very young child and to the centrality of the family to the early intervention process (Thorp & McCollum, 1994).

A distinction between within-discipline and cross-discipline roles places early intervention content within the context of larger bodies of disciplinary knowledge (McCollum & Thorp, 1988). For instance, a physical therapist may need to learn new approaches to assessment that take into account qualitatively different motor development during the infancy period (a within-discipline role). The same physical therapist may need to learn to perform a play-based assessment in partnership with the family (a cross-discipline role), an outcome important for all disciplines. Some training outcomes thus represent an expansion and deepening of traditional areas of disciplinary knowledge, whereas others represent areas of knowledge or new ways of thinking, many common across all disciplines with early intervention roles.

Thorp and McCollum (1994) organized content important for the provision of early intervention services into five broad areas: 1) children, 2) families, 3) team functioning, 4) interagency and advocacy functioning, and 5) personal and professional qualities and values. Cross-discipline training content can be identified in each of these areas. As discussed in Thorp and McCollum, infant-related content identified as important for all dis-

ciplines includes the ability to learn from observation, whereas important family-related content includes the ability to recognize and support family strengths. Team content needed by all disciplines includes knowing a common vocabulary and having skills for working with others as a decision-making unit, whereas interagency and advocacy content ensures that professionals from all disciplines use existing resources and advocate for additional ones when needed. Personal and professional qualities and values encompass at least two aspects of professional competence: relationships with other individuals and ways of thinking and approaching tasks and issues. The process of performing early intervention is grounded in relationships (Fenichel & Eggbeer, 1990) and in how early intervention roles are performed. The ability to build healthy relationships with others and the ability to reflect on oneself as a partner in relationships are critical to the implementation of early intervention roles (Fenichel & Eggbeer, 1990). Qualities and values needed by members of all disciplines also include respect for the collaborative nature of early intervention service delivery. Therefore, beliefs and values must become an explicit focus of training for all early intervention personnel. Dispositions and strategies for handling change also may be relevant in a rapidly changing field, particularly if traditional practice and early intervention practice are not congruent. The ability to make reasonable hypotheses, to guide one's own professional behavior based on these hypotheses, and then to reflect on the outcome are critical to all aspects of intervention. The crucial point for early intervention training, in which processes, values, and relationships are the core of service delivery, is that these must become an explicit part of the curriculum.

Early intervention content specific to each early intervention discipline is also apparent in the first four of these same broad areas (i.e., child, family, team, interagency). For disciplines that are traditionally child focused, changes in within-discipline competencies are most likely to be found in roles related to children. For disciplines with a traditional family focus, new assessment and intervention techniques appropriate for addressing the unique concerns and strengths of families with children with disabilities will be required. For both child- and family-focused disciplines, new perspectives on families may have to be learned. Thorp and McCollum's (1994) analysis of the within-discipline content needed by early childhood special educators demonstrates this process of clarifying desired areas of content. For instance, expectations of the functions to be performed by this discipline in relation to infants and toddlers would include applying observational skills toward understanding the infant's cognitive, social, and emotional development, as well as the interrelationships among these domains. To the process of intervention planning, this discipline would bring expertise in assessing and designing environments to support the infant's development, including specific environmental adaptations to allow infants with disabilities to interact with their environments.

Identifying broad areas of competence, supported by listings of more specific outcomes, suggests subareas of training content (Thorp & McCollum, 1994). For instance, supporting family strengths is based on having knowledge of family systems theory, on valuing diverse strengths, and on using family strengths toward early intervention goals. Each subarea contains its own set of knowledge and skills.

As demonstrated by the chapters in the third part of this book, some areas of content can readily be organized into teaching units or courses. Other areas, often representing the values and professional dispositions that undergird all areas of content, must be embedded throughout the instruction curriculum.

Desired Outcomes: Guidance to Curriculum Breadth and Depth   The extent to which early intervention content can be included within any preservice or inservice training program will depend on the contexts and purposes of the particular program, as

well as on the early intervention roles to be filled by its participants. Some disciplines, and some programs within disciplines, although recognizing a need for specialized preparation, may choose not to offer it based on a variety of contextual barriers (Bailey, Simeonsson, Yoder, & Huntington, 1990) or because it is already available through other avenues of training. In contrast, other programs may emphasize early intervention as a specialized focus or even create new programs directed specifically toward this population. Most disciplines will fall somewhere between these extremes, addressing early intervention content to some extent within their preservice and inservice programs by offering content related to one or two subareas of content or by providing introductory content across a larger range of areas.

A number of important decisions lie between identifying an overall array of early intervention content and delineating the breadth and depth of early intervention content to be included within the curriculum of the particular preservice or inservice program. *Breadth* refers to the number of early intervention content areas or *subareas* to be included and to the amount of information to be included from each. *Depth* refers to the extent to which each area, or selected subunits of an area, will be expected to be part of the working repertoire of participants at the conclusion of the program. Breadth and depth relate to time in the same way: Given desired outcomes of greater breadth or depth, more time in training is indicated. Within given time limitations, however, breadth and depth have an inverse relationship, and a balance will have to be achieved between providing broad information at a more superficial level or more narrowly focused information at greater depth. Decisions about breadth will influence the depth that can be achieved and vice versa. By definition, preservice programs are expected to address both breadth and depth to the extent needed for entry into the professional discipline. Inservice programs, responding to a more delimited content focus and a more restricted time frame, are likely to struggle more with depth than with breadth.

A useful distinction that may lend some guidance to making decisions about *breadth* is made by Havelock and Havelock (1973) among whole-role training, training for skill sets and functions, and training for specific skills. The extent to which early intervention instruction represents any one of these three purposes may be specific to each discipline and may define the extent to which early intervention content, as opposed to other disciplinary content, must be provided to prepare participants for their roles. For some disciplines, early intervention roles may represent considerable variation in knowledge, skills, and attitudes from what is included in existing disciplinary training, to the extent that whole-role training is required. For others, broad awareness combined with a limited number of targeted skills or skill areas may be indicated. Similarities with and differences from traditional roles are an important contributor to decisions regarding the breadth and depth of early intervention content needed by participants within any particular area. The greater the difference from traditional roles, the more a whole-role curriculum may be necessary. Making this determination is not straightforward; when values and processes are the desired outcomes, it is not always easy to determine the extent to which new roles differ from old (Winton, 1990). For instance, individuals working in disciplines that have always worked closely with families may have difficulty understanding the difference between their actual practice and the way their practice would look given the values of family-centered care.

In early intervention, the discipline of special education has tended to take a whole-role perspective because of the pervasive differences in roles filled by special educators who work in early intervention contexts compared with those who work with older children in school settings (McCollum & Maude, 1994). The therapies, in contrast, have

tended to take a skill set approach, based on the rationale that the major functions and practice principles of their disciplines remain constant across populations but must be supplemented by information and skills related to the birth-to-3 age period. In early intervention, single-skill training is the exception rather than the rule because few disciplines have failed to recognize the often extensive changes in disciplinary practice needed for working with this population.

Another useful distinction, lending guidance to making decisions about *depth*, relates to the level at which participants will be expected to apply the competencies gained from training. Types of learning outcomes have been represented on a continuum portraying increasingly greater depth of application, beginning with general awareness, proceeding through knowledge and understanding, to skill application, and finally to bringing appropriate attitudinal dispositions to application of knowledge and skills (Harris, 1980). One guideline for making decisions about the depth of content needed is to consider the level at which the unit of content needs to become integrated into the participant's professional thinking and behavior to perform anticipated early intervention tasks. For instance, is it enough that participants be aware of the values underlying family-centered practice, or should they recognize such practice when they see it? Should they be able to evaluate their own values and their own practice against this standard and change their practice to be congruent with a family-centered perspective? Harris (1980) recommended that, within training, participants experience content at the level at which they will need to apply it in their work.

The need to balance breadth and depth applies to both preservice and inservice. Although content for both is likely to be derived from the same delineations of early intervention roles and recommended practice, preservice and inservice providers must determine what outcomes are needed and can reasonably be achieved from their training, given the unique strengths and constraints of the particular preservice or inservice setting. Depth can be achieved only with time; furthermore, the time dimension must allow application and subsequent reflection. Breadth can be achieved only with multiple training opportunities directed toward the same role or task as part of a holistic view of early intervention practice.

Because preservice and inservice training traditionally address different purposes and use different configurations of time and place, decisions related to breadth and depth also may be different. For inservice training, content is likely to be delimited by inservice education's traditional role in responding to particular needs at particular times. Content may be derived from the needs of a larger system or directly from potential inservice participants in relation to a particular outcome they wish to achieve. Inservice programs may find it difficult to maintain coherence with a larger body of knowledge or to focus on outcomes that require greater depth of application and reflection. For preservice planners, in contrast, the curriculum needs to be narrowed from the whole range of important content to that which is most essential for entry into the profession, while still achieving the breadth of information expected and the depth of learning to facilitate transfer of new abilities and characteristics to future roles.

The balance between breadth and depth may be a particular challenge for disciplines in which early intervention represents only one portion of the roles for which participants are being prepared. Training for early intervention services requires attention not only to new skills but also to how old and new skills are employed with children and families. This appears to call for both a whole-role perspective and for a depth of training necessary for addressing professional dispositions. Integrating new content into an already full inservice or preservice agenda may prove difficult, and both preservice and inservice plan-

ners face dilemmas in balancing breadth and depth. Different ways of organizing content may need to be used to achieve this balance. For instance, knowledge areas might be organized into areas and subareas to be taught as courses, sections of courses, or classes. In contrast, values and dispositions such as those associated with family-centered practice or with transdisciplinary team interaction might be better embedded across courses (e.g., Crais, 1991), as they have implications for how intervention is carried out across multiple areas of content.

In the previous sections of this chapter, learning content has been approached from the perspective of broad program design. In matching the content to the needs of particular learners, additional considerations must include the status of the learners with respect to the content and the overall purpose of the training. Chapter 21 contains additional guidelines for accomplishing this match.

Program Process: How Should Content Be Delivered?

Whereas program content describes *what* is taught, program process refers to *how* content is delivered. As shown in Table 5.2, program process includes making decisions at two levels: 1) the overall program structure and organization and 2) the training strategies used within this larger context. At the preservice level, courses and field experiences are typical structural elements; at the inservice level, workshops and conferences are the most typical structures. Demonstration, small-group work, and lecture are typical examples of teaching strategies. Important decisions with regard to each level of process include the specific elements to be used; the number, length, and order of elements; and the establishment of interelement linkages.

The functions of both levels of training program process, alone and together, are to convey to the learner the outcomes intended by the program, support the learner in developing a professional identity compatible with the provision of early intervention services, and facilitate the transfer of these outcomes to employment. A careful look at the training process is important for at least two reasons. First, there are indications that traditional processes used in preservice and inservice education may not yield the outcomes desired in terms of characteristics and abilities of personnel. The following are process elements to which these unintended outcomes have been attributed in preservice (McCollum & McCartan, 1988) and inservice (Guskey, 1986) training:

- Episodic, disconnected training components
- Lack of opportunities to ground content in everyday experience
- Lack of opportunity to reflect on old and new visions of practice
- Lack of opportunity to build and reinforce new norms of behavior compatible with desired outcomes

A second reason is that the early intervention literature has called for some fairly specific training processes. Fenichel and Eggbeer (1990) identified four elements as essential to preparing competent early interventionists. Three of these reflect characteristics of program structure: 1) opportunities for direct observation of and interaction with a variety of children less than the age of 3 years and their families; 2) individualized supervision that allows the participant to reflect on all aspects of work with infants, families, and colleagues from a range of disciplines; and 3) collegial support, both within and across disciplines, that begins early in training and continues throughout the practitioner's professional life. Other authors have reinforced these same themes. McCollum and Stayton

TABLE 5.2.   Guiding questions for determining training process

Training program structure and organization

1. Has a written philosophy about early intervention practice been used to guide development of the training program?

2. Does the program mirror a collaborative approach to services?

3. Do structural elements make use of real situations as part of training program design?

4. Are structural elements sequenced to foster increasing complexity and integration of information?

5. Does the training structure include opportunities to apply and reflect on learning outcomes at levels the same as or close to those at which they will be used?

6. Does the training structure support the development of collegial norms with regard to early intervention practice?

7. Do structural elements match the types of learning outcomes to which they are attached?

8. Do structural elements recognize/allow/expand on individual differences in learners?

9. Are structural elements linked together to support reflection on action?

Training strategies

1. Do participants interact with content in the ways required in early intervention roles and functions?

2. Do participants reflect on process and on self as implementer, as well as on practice?

3. Do participants interact with receivers of early intervention services with the goal of understanding their perspectives?

4. Are training strategies matched to different types of outcomes?

5. Are training strategies matched to different goals and styles of learners?

6. Are common themes and principles reinforced by multiple strategies?

7. Do strategies support linkages among outcomes and with existing skills and knowledge?

(1996), for example, noted the importance of interdisciplinary interaction during preservice preparation for developing a shared value base and for achieving the collaboration intended in early intervention. Co-teaching by faculty from different disciplines and co-teaching by faculty and parents have both been recommended to support the development of skills and dispositions for collaboration (see Chapters 4, 10, 17, and 18).

Undergirding these training guidelines are two themes: 1) having opportunities within training to develop a value base consistent with knowledge of family systems and early development; and 2) experiencing, within the context of training, the processes inherent in collaboration, problem solving, and self-analysis. These recommendations imply that what is needed are training structures and strategies that will convey how early intervention services are to be delivered, as well as what is to be done, by establishing a close link between content and process. Early intervention training at its best will emulate the collaborative nature of the services that participants are preparing to provide by demonstrating collaborative relationships with families and among disciplines.

Literature on adult learning is another source of information on the process of training. Principles of adult learning yield the following guidelines to designing process (e.g., Knowles, 1987; Margolis & Bell, 1984; Moore, 1988):

- Relate new information to what is familiar and salient to the learner, building on experience and perceptions of need.
- Establish training conditions that create dissonance between existing practice and desired learning outcomes.
- Involve participants in learning experiences that nurture the development of new group norms consistent with desired learning outcomes.
- Link content to existing and future application.
- Provide opportunities for practice and reflection on practice within the context of training.
- Involve participants actively in their own learning process, letting knowledge and understanding grow from mutual investigation of real problems and issues.

These guidelines, although applied in the literature primarily to inservice planning, are equally applicable and useful for preservice design and are highly compatible with the recommendations for early intervention training. All of these conditions may be critical to acquiring and transferring new thinking and new behavior to the workplace, whether that workplace be current or future (Broad & Newstrom, 1992; Brookfield, 1986; Davis & McCallon, 1974; Fitzpatrick, 1989; Winton, 1990). Also needed are time and support for integrating new information into the participant's overall repertoire of professional behavior. (Chapter 7 contains a more detailed discussion of approaches for supporting transfer of training to the workplace.)

These guidelines connote multielement structures and strategies, as well as linkages among elements across time, and apply to both preservice and inservice training. The conditions necessary for reflection are contained in Brookfield's (1986) admonition to structure learning around an ongoing cycle of exploration–action–reflection. Placed within the context of more complex application, this also addresses Calderhead's (1988) observation that increasingly more complex interactions between participant and task become available for reflection as additional experience is gained. Both authors emphasized the parallel processes of acting and reflecting that are inherent in the broad guidelines previously outlined.

There are important differences between experienced and inexperienced learners, the traditional participants of inservice and preservice programs, respectively. First, older learners ordinarily have a fund of professional and life experience that is unlikely to be present in younger learners. Second, older learners may not be receptive to training that is not relevant to current issues in their lives and may be highly motivated to participate in training that is relevant. These two differences are important not only for the guidance they provide to the processes to be used with adult learners but also because they point to an important condition that may need to be established when teaching younger, less experienced learners: forming links with what each participant brings to the learning situation. How opportunities for reflection in complex action contexts can be accomplished within the preservice context is an important question. For instance, an experiential base can be created by providing field experience concurrent with courses or simulated through videotapes or case studies. In addition, however, personal experiences may be particularly important for formulating values compatible with early intervention services; these values represent experiences on which all participants, regardless of experience, can reflect.

The work situations and experiences of older participants may not always provide an advantage. Brookfield (1986) noted that a person's past may sometimes interfere with his or her openness to new information. Winton (1990) also emphasized the importance of using training strategies that assist learners in recognizing gaps between their practices and beliefs and those needed in early intervention settings. Nevertheless, for both inexperienced and experienced participants, past and current personal and professional experiences provide the grounding for learning.

A MODEL FOR PROGRAM DESIGN: COMBINING CONTENT AND PROCESS

Given recommendations derived from the early intervention and adult learning literatures, the question remains of how to match specific training options to specific types of desired outcomes. The next section presents a model for making this type of decision. Two examples of early intervention training are then discussed using the criteria implied by this model and the guidelines previously outlined. Additional examples of practical applications of the principles of training design may be found in Chapter 21.

Description of the Model

A model outlined by Harris (1980) and expanded on by Walker (1982) in relation to preparing early childhood special education teachers provides a framework for matching process to content, based on the congruence between the types of outcomes desired and the depth of impact likely to be achieved using different approaches. Harris's model uses the level and complexity of desired outcomes as a guide for selecting training structures and strategies.

Three basic components, each representing a different continuum, compose Harris's model; the relationship among these is shown in Figure 5.1. The first two components relate to the outcomes desired from the training. On the vertical continuum, different types of outcomes are conceived as representing differing degrees of change required of the learner, with awareness outcomes requiring the least change and attitude outcomes requiring the most. A second (horizontal) continuum, representing complexity of the outcome, expands on the first and represents the extent to which different outcomes must be integrated with other outcomes or units of information and then applied within the context of the particular workplace. The third (diagonal) continuum organizes training processes according to their match with desired levels of impact and differing levels of complexity and synthesis necessary for application to early intervention settings. The degree of impact is assumed to be related to the degree of active involvement that the participant has in the training process, with active involvement defined as the extent to which the learning activity allows the participant to experience knowledge, skills, and attitudes in the same way they will be required in the work setting. For instance, if the participant will need to lead an interdisciplinary team through the process of developing individualized family service plans, then the participant should engage in (and reflect on) this role within the context of the training. The greater the personal involvement, the more the impact. As shown in Figure 5.1, lectures might be expected to have the least impact, approaches such as role play and guided practice to have more, and learning situated in everyday experience the most. Also illustrated is the need to include among the training processes specific approaches for facilitating transfer of training (see Chapter 7).

Combining these continua allows planners to achieve a balance of efficiency and effectiveness for the range of approaches included and the types of outcomes desired. With regard to effectiveness, for example, although reading may be an efficient use of
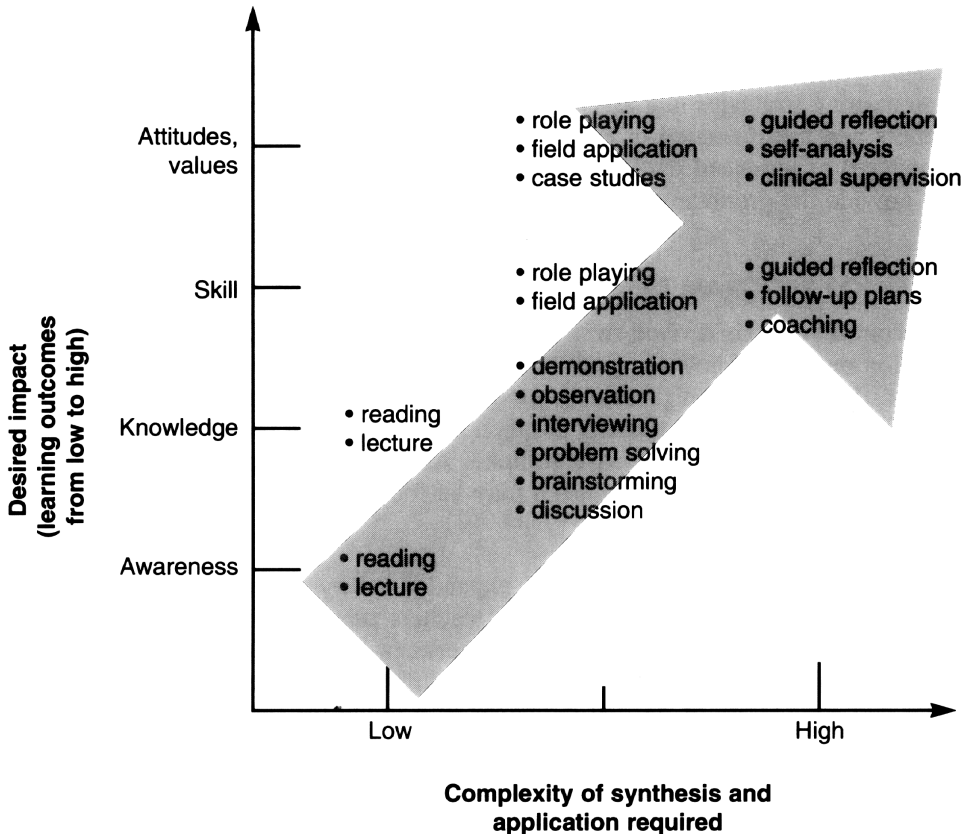
Figure 5.1. A model for matching training approach to desired training outcomes and complexity of application. (Adapted from Harris [1980].)

actual training time, it is unlikely to bring about changes in skills or attitudes; knowledge outcomes, in contrast, may be achieved quite well with reading or other relatively lower-impact approaches such as lecture. Skill or attitude outcomes would require active approaches to training such as guided practice and self-analysis, which also may take up more of the available training time. With regard to efficiency, highly active approaches, which take more training time, may be unnecessary for gaining basic knowledge that can be acquired through reading or lecture. Complex tasks and functions, requiring integrated knowledge, skill, and dispositional outcomes across multiple areas, would require a combination of training approaches with different levels of impact. For instance, as shown in Chapter 14, an inservice or preservice session on teams and teamwork might include a videotape, family story, or self-analysis survey to raise awareness; an activity for recognizing and learning the stages of team development; and an applied activity in which participants evaluate a videotaped team meeting from the perspective of principles of team practice (Project Vision, 1994; Virginia Institute for Developmental Disabilities, 1990). Complex learning outcomes likely would also require guided practice and opportunities for reflection across time, using methods such as peer coaching or clinical supervision (as described in Chapters 7 and 8).

The concept of differing levels of impact can be applied both to the larger program structure and to the strategies used for teaching. In addition, it applies to both preservice

and inservice settings. For instance, at the preservice level, close structural linkages be-tween coursework and field experience would facilitate the integration of multiple out-comes and provide opportunities for transfer, implementation, and reflection (Walker, 1982). To accomplish this, field experiences would need to be concurrent with or embed-ded within courses; if concurrent, then specific linkages would need to be made between them, perhaps in the form of field-based course assignments. At the inservice level, ap-plication of training content within the workplace might be parallel or subsequent to workshops or other training events or be supported by follow-up technical assistance. Within a single class session or inservice session, multiple activities might be used to provide information, allow participants to apply the information by analyzing case studies, and develop plans for implementation within a real or simulated work setting. To the extent possible, the level at which the outcome is to be applied on the job is the level at which the participant should interact with the information within the context of the training situation. Thus, if implementation of a certain skill is the outcome, then implementation should occur within the context of training, so that practice and reflection go hand-in-hand. If application of a certain value base to the planning of services is the outcome, then the value base should be applied to multiple relevant situations within the context of the training. Ideally, training would carry over into the workplace itself as part of the continuing cycle of action, exploration, and reflection (Calderhead, 1988).

The guidelines provided by this model are highly compatible with those derived from the literature on adult learning and with recommendations in the early intervention training literature related to collaborative training and to an explicit focus on values and self-reflection. What the model offers is a systematic way of thinking about the match between desired outcome and process.

Sample Applications

A number of specific approaches for teaching particular areas of content have been de-scribed in the early intervention literature and also appear throughout this book. This section applies the guidelines in the previous sections to two selected training approaches to illustrate how this process might be useful to trainers evaluating their own approaches. For the purposes of this chapter, the examples selected for discussion illustrate training efforts focused on preparing participants for collaboration with families and other team members (for more discussion of training methods related to these two topics, see Chapters 10, 14, and 17).

The Family-Based Practicum   Desired outcomes related to collaboration with fam-ilies include, among others, understanding family systems, identifying family strengths, valuing family perspectives and diversity, and using skills that foster confidence and com-petence in family members. Professional and personal values are conveyed to families in many ways. Therefore, it is necessary for participants in early intervention training to have the opportunity to learn about the diversity of family life and to confront and examine their own feelings about families (Fenichel & Eggbeer, 1990).

One structure that has been used in several preservice programs to provide this op-portunity is a family-based practicum (see Chapter 17). In this type of practicum, partic-ipants are required to spend a specified period with a family from the local community. The intent is that the participant will come to perceive daily life, including early inter-vention, from the family's point of view and become better able to interpret the world through the eyes of families different from his or her own. In so doing, participants confront their own values about families and how these may influence their own existing or future early intervention practice. Although family-based practica range considerably

in the amount of time spent with the family, the specific activities in which participants engage with the family, and the extent to which interactions with families are accompanied by a simultaneous opportunity for ongoing reflection, they have in common the view of family as teacher and participant as learner, as well as desired outcomes related to values.

As a structural solution to providing specific early intervention content, a family practicum meets many of the guidelines previously outlined, particularly if ongoing reflection is built into the practicum through a mechanism such as supervision or keeping a journal. The need and motivation for acquiring knowledge and skills are grounded in the experience of being with the family, and experience provides the arena for application and further reflection. Questioning one's own perceptions of families, one's role with families, and one's interactions with families should be a natural outgrowth of the experience. Participants should come to question the source of their values and behaviors and be better able to interpret how these might influence their interactions with and feelings about families. Given that information is available to meet emerging questions and dilemmas and ongoing opportunities for reflection are provided, the participant becomes active in the learning process.

Although a family-based practicum has been used most with preservice participants, it also may be used with those already employed in early intervention positions. Many of the processes previously described mirror those recommended for ongoing clinical supervision of early intervention personnel (Fenichel, 1992). In addition, similar benefits could be derived from assigning currently employed participants to families external to their work settings in conjunction with coursework or as a follow-up activity to inservice training.

Strategies directed toward similar outcomes, but more limited in scope, might include the use of case studies (McWilliam, 1992). As illustrated in Chapter 17, co-teaching preservice or inservice programs with families represents another powerful strategy for modeling the values and processes that are goals for the participants.

Team Training   Interdisciplinary team training is another structure that supports the goals of early intervention training and demonstrates attention to many of the guidelines previously stated. Team training models are based on the assumption that if any team member is to change in accordance with the goals of training and transfer this change back to the work setting, the team must participate as a functional unit. For instance, in one team training model (Bailey, McWilliam, & Winton, 1992; Winton, McWilliam, Harrison, Owens, & Bailey, 1992), functioning teams were brought together to participate jointly in a 3-day workshop, with administrators present as well. The primary instructional strategies used were self-examination, decision making, and goal setting, with the ultimate goal of the workshop being the creation of a team plan for becoming more family centered in their practices and policies. The teams assessed their current practice by responding to a series of self-assessment questions and set goals for change based on what they discovered and what they were learning from case studies, presentations, and large-group discussion embedded within sections of the workshop devoted to each question. Teams then engaged in a process of structured discussion and decision making to generate a course of action (see Chapter 14 for strategies for team training and Chapter 20 for information on the use of the team training model within a community context).

Viewed from the perspective of the training guidelines, participants learned and practiced new ways of interacting with one another; in addition, teams as functioning systems developed new norms for team goals and practices to be carried back to their workplace. Training was grounded in the team's common experience, different perceptions of reality were made explicit through the use and sharing of self-assessment information, and sup-

port and new skills were provided for developing new peer group expectations. Knowledge, skills, and values are linked together as participants engaged in action and reflection (Brookfield, 1986). Strategies incorporating active problem solving were used to achieve psychological engagement with the material, and information and skills are linked to needs arising from work and within-instruction experiences. In accordance with the levels of impact guidelines, the team used its new knowledge and skills to engage in practice and evaluate this practice from the perspective of its congruence with new collegial norms. A team plan was then developed to facilitate the transfer of new behaviors and attitudes to the team's workplace. Given follow-up assistance from the instructor and from other team members, opportunities were available to engage in action and reflection, ensuring that new norms of behavior were integrated within the systems that were in place. In this approach, structure and strategy are intertwined.

Portions of this framework seem applicable across preservice and inservice. Preservice practica also can be designed around an interdisciplinary team process (McCollum & Stayton, 1996; also see Chapter 18). Within courses, teams can be created with constant membership to last throughout a semester, and simulations of field-based dilemmas and decisions can be used as the content of interaction (Winton, 1992). The critical element is that the team then reflects on its own interactions, developing and subsequently evaluating rules and agendas for its own functioning. These processes, although grounded in simulated situations, nevertheless take team members through common experiences, providing processes to be used in future team situations.

Some of the elements found within these models are also useful in and of themselves as strategies that can be applied within other training structures. For instance, self-assessment has been recommended as a strategy that can be directed toward many areas of content. Self-assessment as a training tool offers an active participation approach to providing the participant with information about recommended practice, creating dissonance (and motivation for learning) as participants compare their current practice (or what they have observed) with recommended practice. Therefore, self-assessment is a generalizable tool that may be useful across many areas of content and is applicable to both preservice and inservice settings.

At both the preservice and inservice levels, internal and external constraints and parameters influence the design of early intervention training systems. Nevertheless, there are choices to be made and creative options to be pursued. The big questions for program planners relate to which structural elements and strategies, for how long, and in what configurations will support acquisition of desired outcomes and facilitate transfer to non-training situations. The minimum appears to be opportunities to develop relationships and to experience interactions with infants and toddlers, families, and members of multiple disciplines. Process goes far beyond mere exposure, however. The two previous examples were based on guiding principles related to the following: 1) experience, as a part of training, with the processes that will enable application and continued development, including collaboration and clarification of values; 2) training structures that match existing or future work settings as closely as possible, including using real and simulated situations and dilemmas; 3) training strategies that link understanding to experience, whether professional or personal; and 4) strategies that enhance self-directed learning, including self-assessment and peer supervision. Making decisions about how content will be conveyed to learners requires attention to how different structures and strategies relate to different types of outcomes to be achieved and to how outcomes become integrated within a single frame of reference achieved by the individual participant.

BLURRING THE LINES BETWEEN PRESERVICE AND INSERVICE

Rethinking Definitions

In the first section of this chapter, it was noted that traditional distinctions between preservice and inservice education carry a set of assumptions with regard to the purveyors and recipients of training, the degree of experience and professional knowledge that participants bring to the training process, the centrality of the training program within the participants' current life contexts, the amount of time available for training, and the temporal relationship between training and application.

New issues are raised for preservice and inservice programs when changes such as those occurring in early intervention require pervasive, rapid change in personnel. New preservice graduates may have received little preparation for entry into early intervention positions, as demonstrated in Janet's story in Chapter 1, and may need further entry-level training across many content areas. Although some experienced professionals may have considerable expertise and seek further training to broaden their skills and knowledge, others may need to make pervasive changes in what they do and believe or even in their anticipated career paths. As a consequence, both preservice and inservice programs are likely to have a broad mix of participants who differ in age, professional experience, and experience with infants and toddlers with disabilities and their families. Preservice programs that address early intervention may serve larger numbers of individuals in mid-career, who bring with them characteristics and goals that may not match those of the young learners for whom the programs were designed. Inservice programs, in contrast, are increasingly likely to serve individuals with little experience or training related to early intervention and who need a great deal of additional entry-level preparation. Thus, both preservice and inservice programs are faced with addressing functions not traditionally viewed as their mission: Inservice structures are apt to be used increasingly to address entry-level scope and depth, whereas preservice structures are apt to attract individuals whose motivation is to expand and grow in their profession rather than to learn entry-level skills and knowledge. This presents profound dilemmas for both preservice and inservice programs, as traditional sructures and assumptions are likely to be severely challenged.

The blurring of traditional preservice and inservice audiences and purposes is a reality, yet little consideration has been given to how violation of these assumptions may influence the expected outcomes of preservice and inservice programs (McCollum & Bailey, 1991). The important question for preservice and inservice planners is what implications the blend of audiences and functions has for making decisions about the content and process of training. Alternatives for addressing these dilemmas must be pursued both by the individual preservice or inservice training program and by each state's early intervention training system, which, ideally, would be closely related. Although some colleges and universities have responded to the need for early intervention training by developing preservice training options, these are few in number and often limited to adding a class session or module related to early intervention (Bailey et al., 1990). Moreover, few preservice programs involved in early intervention training appear to have direct linkages to their states' early intervention personnel systems, although they may be known to the state and recognized as benefiting the state. At the inservice level, many states have established training arms responsible for providing early intervention training. Nevertheless, inservice training opportunities, although more available and more targeted toward early intervention, tend to be separate from one another in content and structure. There also are likely to be separate agencies and professional organizations that provide substantial amounts of

early intervention training and that may not be linked to the state's early intervention system. In any of these settings, traditional assumptions about characteristics of participants and purposes of training may therefore not necessarily be met. These points are discussed from the perspectives of the options open to individual training programs for addressing these dilemmas and recommendations for the state personnel training system as a whole.

Changing Roles of Training Programs

Responses made by individual training programs to the array of audiences increasingly seen in both preservice and inservice can be arranged along a continuum of most change in traditional program practice to least change. On the side of most structural discrepancy from traditional approaches to training, programs may develop and depend on self-instruction modules or other alternatives to face-to-face training. However, such options may require considerable resources and expertise not available to every program. At a slightly less intense level, the same training structures may be maintained for all participants but with individualized options. For instance, preservice participants may have individualized assignments or application plans specific to their own situations or based on the results of self-analysis or may be asked to take different roles (e.g., peer coaching) within the context of the training. A third strategy is to maintain the traditional approaches while creating common frames of reference that cross diverse participants by using strategies such as case studies or activities designed for self-examination. The latter may be particularly useful because such activities are often based on personal as well as professional experience. All learners, regardless of training or work experience, bring to the training program a background of personal experience that may be of crucial importance to their ability to relate to early intervention content. Particularly salient to early intervention training may be personal experiences related to culture or to the development of interpersonal relationships. Personal stories of all participants are relevant for reflection and analysis.

Many of the same options that appear to accommodate the increasingly diverse characteristics of participants also may respond, at least partially, to changes in function when participants with different levels of ability in early intervention content participate together in the preservice or inservice program. For instance, preservice programs, although providing broad-based training to their more traditional students, also can make individual courses available to working professionals by offering weekend formats or by including an option for supervised practicum at the individual's worksite. Other distance learning options (see Chapter 19) also can accomplish the same functions. Alternatively, inservice programs addressing the broader entry-level training needs of practicing early interventionists can develop linkages among content areas across inservice sessions, as well as multielement options such as follow-up consultation and opportunity for reflection on the results of a take-home plan.

State Support for Blending Preservice and Inservice

Both preservice and inservice programs can obtain greater coherence of content and process by linking what they provide to an overall state plan for personnel training. States that have made the most progress in addressing early intervention personnel issues are those in which state agencies and universities are closely linked (Rooney, Gallagher, Fullagar, Eckland, & Huntington, 1992). The concern is with what state training systems can do to enhance the ability of preservice and inservice programs to accommodate the unique combinations of audiences and expected training outcomes in the new field of early in-

tervention. Although there are no definitive answers, there are many steps open to state planners.

First, each state should consider the assumptions that underlie preservice and inservice training in terms of who and what they traditionally are designed for and the unique features that allow these purposes to be achieved. The purposes of preservice and inservice programs as they relate to early intervention training within the state can be clarified and made explicit. If an inservice system is to be used for broad-based training, a purpose generally filled by preservice programs, then attention should be given to achieving the characteristics that allow preservice programs to offer breadth and depth of training. If preservice programs are expected to fill this function in relation to the specialized area of early intervention, then this should be made explicit. If preservice programs are to be encouraged to provide an inservice function, then attention should be given to the approaches and options that would assist preservice programs in reaching currently working personnel.

These deliberations presume that there is an undergirding system in place for personnel development in the state that provides a core vision and philosophy from which approaches to preservice and inservice training both derive. If both approaches are used to address both functions, credentialing or other recognition structures can be developed to legitimize these efforts. For instance, a set of common training outcomes, to be used in both preservice and inservice settings, would allow both types of programs to be linked to the same credentialing or certification system. Such a system would also support crossover by both participants and trainers, thereby maximizing the training resources within the state.

To achieve this level of cohesion, it is also necessary for state systems to provide concrete support for early intervention training. There are many barriers to providing training, including availability of instructors with expertise in early intervention and extra dollars to support programs. A first step is to survey resources for training already present within the state and to combine these resources into a linked system; this can occur only with commitment to collaboration by agencies and disciplines. A process for accomplishing this blending must itself receive the support and commitment of multiple players (Winton, Catlett, & Houck, 1996). Attention also needs to be given to providing monetary and moral support for the development of a broader array of options within or instead of more traditional preservice and inservice programs. Demonstration sites, supervision at the worksite, and distance learning all represent options beyond the resources usually available to trainers.

Many states are recognizing the importance of instructing preservice and inservice faculty in both the content and the process of early intervention personnel preparation and of using preservice and inservice trainers across their traditional boundaries (Winton et al., 1996); community-based team training, described in Chapter 20, is one way of approaching this blending. Recommended training practices can be modeled within training-of-trainers events to assist faculty in visualizing and practicing processes to use in their own work including take-home plans complete with follow-up consultation (Winton, 1996; see also Chapter 7). Consortia of experienced trainers also can assist newly prepared trainers in implementing what they have learned. Especially encouraging are the increasing linkages among trainers and the early intervention providers and families who want to assist in training. States can support and legitimize these linkages with flexible funding mechanisms, thereby maximizing the training expertise available.

A redefinition of the preservice–inservice continuum, based not on a temporal relationship between the two, on younger versus older learner, on nondegreed versus degreed, or on not yet employed versus employed, but rather on where individuals stand in relation

to desired early intervention training outcomes, may better meet the needs inherent in developing a cohesive early intervention training system. Applications of adult learning to the design of training are based on the assumption that individuals differ in how they approach and benefit from learning, depending on their stage of development. What is important about stage models for program development is their implication that individuals may relate to content differently at different stages and that various training processes may be more or less effective at different stages. A complicating factor, however, is that life stages have not been clearly separated from career stages. Although younger learners presumably do not have much experience, it is not clear how the concept of career stages applies to older learners who have made major shifts in their careers or whose previous practices do not match recommended practice. How do these learners match the assumptions for typical participants in preservice and inservice training? Presuming that they vary considerably in early intervention experience, can either preservice or inservice programs, as traditionally defined, meet their needs? With redefinition, traditional inservice programs may serve preservice functions and vice versa; the important difference between preservice and inservice programs may not be who participates in them or when but rather how they serve the functions necessary within the particular state.

It also may be useful to recognize and support within the state system an induction period to serve functions that fall between preservice and inservice programs. As defined in the teacher education literature (Christensen, Burke, Fessler, & Hagstrom, 1983), induction represents the first 1- to 2-year period on the job, following completion of preservice training. It is a time of application, integration, and exploration; a time of critical importance in the development of a professional identity; and a time when professionals have particular needs for support and training (Christensen et al., 1983). The themes previously explored as undergirding broad-based training can lend guidance to processes that might be appropriate during this time. Important content during induction includes a value base and the collaborative processes consistent with early intervention. This content points toward a structure to assist individuals who have just completed entry-level training in transferring to the workplace the *how* of early intervention services as well as the *what*. Mentoring, peer support, and consultation may all be appropriate processes for meeting this purpose. At a less comprehensive level, a state may provide orientation training to newly hired early intervention providers. If viewed as a joint responsibility between programs offering entry-level training (whether in colleges and universities) and those offering training for professional expansion and growth (regardless of setting), a recognized induction period could serve an important function in the transfer of learning.

The dilemmas that arise with the blurring of lines between preservice and inservice programs cannot be easily solved. Nevertheless, some creative ways of using the guidelines outlined in this chapter might assist in this process. At the least, it is a given that each individual, whether experienced in early intervention or not, will relate to content in different ways at different levels, depending on his or her personal and professional histories and characteristics; in essence, each individual will derive his or her own curriculum from what is offered by the training program. Building training components that bring these differences to light and using them as part of the process will make it more likely that the curriculum intended is the curriculum learned.

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