DOCUMENT RESUME

ED 335 115 PS 019 667

AUTHOR Bergen, Doris
TITLE Play as the Vehicle for Early Intervention with At-Risk Infants and Toddlers.
PUB DATE Apr 91
NOTE 48p.; Paper presented at the Annual Conference of the American Educational Research Association (Chicago, IL, April 3-7, 1991).
PUB TYPE Information Analyses (070) -- Viewpoints (Opinion/Position Papers, Essays, etc.) (120) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *At Risk Persons; Child Development; Developmental Disabilities; *Early Intervention; Evaluation Methods; Infants; Parent Child Relationship; Perceptual Motor Learning; *Play; Preschool Education; Pretend Play; *Prevention; Special Education; Toddlers; *Young Children
IDENTIFIERS *Developmental Delays; Developmental Sequences

ABSTRACT

This paper reviews the current literature on the suggested uses of play for assessment, prevention, and intervention with special needs children. The paper also uses case studies to illustrate the ways play is being used to facilitate achievement of early intervention goals and discusses advantages and disadvantages of these uses of play. The play-based model of assessment involves observation of children's sensorimotor, symbolic, and social play by a transdisciplinary team. Parents are taught directive or playful techniques that minimize problems that arise from dysfunctional parent-child interaction patterns, and thus prevent developmental delays on the part of at-risk children. The use of play for educational intervention involves the development of play skills as a planned part of a curriculum and the incorporation of playful approaches for mastery of skills in other domains, such as language or social skills. This paper defines play and addresses questions about what constitutes play in play-based assessment, in parent-child social interaction, and in play intervention. Appendix 1 describes the three assessments used as examples in the text, and Appendix 2 presents additional examples of prevention and intervention through play. (BC)

Play as the Vehicle for Early Intervention with At-Risk Infants and Toddlers

Doris Bergen

Department of Educational Psychology

Center for Human Development, Learning, and Teaching

Miami University
Oxford, Ohio
45056

Symposium Paper Presented at the Annual Meeting of the American Educational Research Association

Chicago, April, 1991

The field of special education has had a strong behaviorist orientation for much of its history. However, in the past few years, especially as aspects of the behaviorist paradigm has been found wanting, special educators have begun to discover play. With the recent passage of P.L. 99-457, which requires publicly-supported educational programs for special needs preschoolers and integrated service plans for identified at-risk infants and toddlers, special educators' current interest in play is primarily related to its potential usefulness as an early intervention tool.

Advanced neonatal technology has resulted in the survival of a greater number of potentially at-risk infants. The increasing numbers of neonates with drug dependency, aids, and other medical problems have also brought early intervention to public attention. In addition, socio-economic and parental status factors that predict developmental delay in young children have resulted in recommendations for early intervention with specific targeted groups, such as teen-age parents.

There are three levels of risk (defined by Tjossem, 1976) that are used to categorize at-risk young children: (1) biological risk, which arises from medical trauma or insult to the nervous system; (2) environmental risk, which arises from ecological factors in the family, community, or socio-economic system; (3) and established risk, which is a diagnosed condition (handicap) that is

likely to be related to developmental delay. The use of play as a means of preventing, remediating, or lessening delay of children in all three of these risk categories is receiving increasing attention.

In the early intervention literature, there are three major ways that play is being recommended as useful in early intervention: (1) as a medium for assessing young children's eligibility for early intervention programs and for identifying specific delays that might be goals of intervention (e.g., Fewell & Rich, 1987; Linder, 1990; Neisworth & Bagnato, 1988; Quinn & Rubin, 1984; Zelazo, 1982); (2) as an interactive social play skill that can be taught to parents of at-risk infants (e.g., Bailey & Slee, 1984; Brown-Gorton & Wolery, 1988; Lambermon & van Ijzendoorn, 1989; Lowry & Whitman, 1989; Field, 1979); and (3) as an educational strategy that teachers can use in early intervention programs (e.g., Beckman & Kohl, 1984; Dunst, 1981; Fewell & Kaminski, 1988; Strain & Kohler, 1988; Wehman, 1978).

This is not the first time that play has been promoted as an intervention strategy for very young at-risk children. In the 1960's and 70's, Susan Gray, Ira Gordon, Phyllis Levenstein, and other early childhood researchers demonstrated that a play-based curriculum could increase cognitive abilities in the first years of life (Lazar et al., 1982). At that time the programs using play as a means of intervention were initiated by

early childhood specialists concerned with "disadvantaged" (i.e., environmentally at-risk) children rather than by special educators concerned with children having biological and/or established risk.

Using play as an assessment, prevention, and intervention technique is still a relatively new approach for many special educators. Special education curriculum has been drawn primarily from a behaviorist model, which has traditionally focused on criterion referenced assessment, highly sequenced additive instructional techniques, and the gradual shaping of behavior through adult-selected reinforcement contingencies. The use of play for assessment also provides a new perspective for most clinical and school psychologists. Psychological assessment process has been heavily focused on psychometrically oriented measures, normative standards, and the use of discrepancy scores to determine eligibility for special programs. The mandate for multifactored assessment of young special needs children, which is part of the recent law, introduces a major change from the typical assessment procedures used with elementary school age children.

Those of us who have long valued play as a medium for children's development and learning may have mixed feelings about its increasing visibility as a tool in early intervention. On the one hand, we are pleased that special educators and psychologists are realizing the importance of play in facilitating their work with young

children. On the other hand we may have some concerns that these uses of play by educators and psychologists who have been trained primarily in non-developmental paradigms might have negative as well as positive outcomes.

This paper briefly reviews the current literature on the suggested uses of play for assessment, prevention, and intervention. Then, some examples drawn from case studies illustrate ways play is being used to facilitate achievement of early intervention goals. Finally, questions about the advantages and disadvantages of these uses of play will be raised and briefly discussed.

Using Play as a Medium for Assessment

Play-based assessment is being increasingly advocated as an unobtrusive method of screening, as an integral part of in-depth transdisciplinary team diagnoses, and as a means for pinpointing specific delays to be targeted in educational plans.

Much of the interest in play as a medium for assessment has arisen from reports by researchers of the differences that they have observed in comparative studies of handicapped and non-handicapped young children's play (e.g., Beckman, 1983; Casby & Ruder, 1983; Fait & Kupferes, 1976; Mindes, 1982; Olson, 1983; Tait, 1972; Rogers & Puchalski, 1984; Terrell & Schwartz, 1988; Switzky, Ludwig, & Haywood, 1979). Some of the major findings of this research are as follows:

Sensorimotor/Practice Play. Most at-risk young children engage in the first stage of play development (sensorimotor/practice play) although the quantity and quality of the play is influenced by the nature and severity of their handicaps, biological risk, or environmental risk conditions. For example, visually impaired, autistic, and motorically-impaired children have narrower ranges of sensorimotor play behaviors, severely multiply-handicapped children initiate less sensorimotor play, and abused/neglected children may be hypervigilant and less exploratory. Down Syndrome and hearing-impaired children, however, seem to show sensorimotor play behaviors that are very similar to those of children who are not at risk.

For the majority of at-risk children, sensorimotor play development proceeds in a similar sequence to that of non-risk children; however, the timing of the sequence of development is comparable to that of children who have similar mental rather than cognitive age. Thus, play assessments that indicate children's developmental delay or distortion in sensorimotor play can give early interventionists indications of possible delays or handicapping conditions in other domains.

Symbolic Play. This level of play appears in at-risk children when they have reached the mental age of about 20 months, similar to the chronological age when it is typically present in non-risk children. The presence of at least "toddler level" language ability (i.e., two

word utterances, understanding of "no") has been found to be related to symbolic play ability.

Level of symbolic play exhibited is also influenced by environmental factors that interact with the at-risk or handicapping condition. For example, the level of structure and realism of play objects differentially influences the symbolic play of language-impaired children. Sensory-impaired, mentally retarded, and autistic children also show less ability to engage in complex object transformations. The symbolic play of both Down Syndrome and autistic children tends to be more repetitive and rigid than that of non-handicapped children.

Assessment of the onset, quantity, and quality of the symbolic play of children who are at-risk for developmental delay is an especially useful objective because it can inform and validate other assessment measures that indicate developmental problems.

Social Play. Two areas of delay in social play have been observed in at-risk children. One is the process of learning interactive adult/child social play routines. Because the responsiveness of the child influences the responsiveness of the adult, children with visual-impairments and severe motor, cognitive, or emotional impairments are especially likely to have distorted social play routines with parents. Children with these established risk conditions who are also environmentally

at-risk are particularly vulnerable and are likely to have limited opportunities to learn appropriate social play routines.

Social interaction problems often are demonstrated in social play development with peers as well. Handicapped young children who are mainstreamed into settings with normally developing peers may be observers more than participators in the social play. Early social play interactions with peers may be delayed or distorted because of hearing and/or language impairments as well as by the physical, mental, and emotional impairments that are related to poor adult/child social play interactions. Assessment of social play development can be a useful means of identifying these problems early and developing intervention strategies to ameliorate the effects of the at-risk conditions on peer social play development.

Methods of Assessment

Because of the reliability and validity problems encountered in using standard testing procedures with very young children, psychologists are concluding that they can gain much valuable information through observations conducted in low structured play settings, in which children's naturally occurring interactions and routines can be observed. The emphasis on multifactored team assessment has drawn attention to play observation as a cost- and time-effective method. Play-based assessment occurs either in a special setting that has been designed to elicit a wide variety of behaviors

(e.g., Linder (1990) gives a detailed description of this approach) or by observing play within a home or existing early intervention program setting.

Assessment of specific play developmental levels that indicate overall developmental progress or delay are based on the work of researchers who have outlined the sequences of normative sensorimotor, symbolic, and social play development levels (e.g., Bretherton, 1984; Nicholich, 1977; Piaget, 1962; Rubin, 1985). In particular, because the level of symbolic play development has been shown to be closely related to the development of language in normally developing toddlers, the assessment of the symbolic play level of the child can be used to provide validation for results from standard measures of language comprehension and production.

The structured instruments suggested for assessing play development are primarily adaptations of those reported in the research literature. For example, children's social and cognitive play levels are often recorded using instruments similar to those designed by Rubin and colleagues and sensorimotor play is often described using Nicolich's categories.

The case for the use of play in transdisciplinary team assessments is made strongly by Linder who indicates that the advantages include use of the natural environment, better rapport with examiners, flexibility

in testing domains, an integrated, holistic perspective, parent involvement, information on processes as well as products, and more useful information for planning interventions (pp. 14-19). In addition, Linder states that "every child is testable" in a play-based assessment approach.

The play-based model usually used requires a transdisciplinary assessment team who observe the play setting concurrently, with each member of the team responsible for assessing a particular domain of development. For example, the team may consist of psychologist, speech pathologist, physical or occupational therapist, social worker, and early childhood special educator. Some periods of adult or peer interaction in the play setting may also be built into the assessment. Each professional uses observational and clinical techniques that are typical of that discipline but that can be observed within the play experience. After the team observation, an integrated comprehensive assessment is made, which includes parental participation. Further diagnostic testing with other instruments may or may not be recommended.

Less extensive play-based assessment within existing home or early childhood settings can also be conducted by teachers, psychologists, speech pathologists, or any other professional who desires a spontaneous and natural look at particular domains in which delay is suspected. These observations can be especially useful in assessing

"borderline eligible" at-risk children and in providing information that can be used in educational planning.

Using Play to Prevent or Reduce Developmental Delay

The second major area of interest in play for early intervention is in promoting its use as a technique that can be taught to parents to prevent or minimize developmental problems that arise from the disfunctional parent/child interaction patterns. The information used in planning preventative strategies is drawn primarily from the literature on the early social play routines of normally developing infants and their parents (e.g., Bruner & Sherwood, 1976; Stern, 1977). There has also been a substantial set of research studies that describe differences in social play interaction patterns of at-risk infant/parent dyads and compared them to those of other infant/parent dyads (e.g., Bailey & Slee, 1984; Beckwith, 1985; Field, 1983; Fraiberg, 1974; Frodi & Lamb, 1980; Rogers & Puchalski, 1984). Some of the major findings of this body of research are as follows:

Value of Social Play The research on social play routines of parents and infants indicates that many social interaction skills are learned in this early play. For example, infants learn how to distinguish play from not-play, how to interact with others within a play frame, how to take social turns, how to follow social rules, and how to modulate their arousal level. Futher, the attachment process is enhanced by early social play.

At the toddler age, parents model pretend play and help their children learn appropriate interaction roles. Thus, early caregiver-child play has an important place in the development of all other developmental domains.

Distortions in Social Play in At-Risk Dyads. When infants' visual-impairments, mental retardation, motor-impairments, or other handicapping conditions result in their having low or erratic response levels to adult attempts at interaction, the synchrony of the parent/child interaction pattern is disturbed and the social play becomes distorted. The initially interactive parent may lessen the interaction, change to a very directive method of interaction, or change in affective quality toward the interaction.

When the situation is one of environmental risk, there may be conditions that result in the parent's inability or lack of desire to provide the appropriate social play interactions. For example, drug abuse, mental retardation, or emotional problems of the parent may cause neglect or abuse of the child and limited or distorted interaction patterns.

Improving Social Play Interaction. Advocates of intervention to prevent or remediate distortions in parent-child social interaction have promoted the use of strategies to improve these interaction patterns. Efforts to improve infant/parent social and language interactions have used techniques ranging from very directive to very playful methods. The timing of these training sessions

range from those initiated in the neonatal nursery to those initiated after the child has been referred to an early intervention program. Most home visit programs have the improvement of child/parent interaction as a major educational goal and the type of interaction that is usually encouraged is one that is playful. The modeling of appropriate play interaction patterns by the early intervention specialists and the subsequent expectation of reproduction of those patterns by the parent is a commonly used technique (e.g., Barrera, Rosenbaum, & Cunningham, 1986). Videotaped and written instructions have also been used to enhance responsive interactions (Lambermon & van Ijzendoorn, 1989).

Most approaches give specific directions to parents, either asking them to imitate their child's behavior (e.g., Brown-Gorton & Wolery, 1988) or teaching them a specific set of play behaviors to implement with their child (e.g., Lowry & Whitman, 1989). Both of these approaches seem to indicate that they can be effective in changing the interactive style of parents to a more playful, responsive, and synchronic pattern. Although these efforts are encouraging, there is not yet evidence of long lasting effects of the interventions on parent-child interactions and relationships nor on the development of social interaction abilities in the children. Only long term study will be able to show whether this preventative approach does lessen effects of

developmental delay in at-risk children.

Using Play for Educational Interventions

The third use of play advocated by early intervention specialists is as an intervention technique for reaching educational program goals. There are two strands to this approach, following from the two uses of play in assessment. First, the development of specified play skills may be a planned part of the curriculum. For example, in developing the individual educational plan and/or a individual family systems plan, improvement in social play skills may be stated as a goal and techniques to be used by teachers and parents specified.

Second, because of the close tie between play and other developmental domains, educational plans may also incorporate the use of playful approaches for mastery of skills related to delays in other domains, such as language or social skills. The use of play in educational planning has been informed by the studies of effects of mainstreaming and other educational interventions that have described skill enhancements through playful instructional approaches. The research has been focused primarily at the preschool age level and includes reports of the differential success rates of play approaches for mildly to severely delayed children and for children with varied at-risk conditions. (e.g., Beckman & Kohl, 1984; Combs & Arezzo-Slaby, 1977; Crawley & Chan, 1982; Gibbs, 1988; Guerney, 1976; Guralnick & Weinhouse, 1984; Peck, et al., 1978; Strain, 1975). Some of the major

findings of this research are as follows:

Educational Intervention Effects Enhancement of sensorimotor play has been one intervention focus. because this development follows a sequence in most at-risk children that is similar to the sequence of normal development, successful interventions are designed to give children many opportunities to engage in a variety of interactions with responsive objects and thus increase their sensorimotor play skills. Because studies of mainstreaming have indicated that handicap/non-handicap social play is often minimal when specific opportunities for interaction are not provided, educational planning to increase social play is often recommended in the literature. Structured activities have been shown to encourage handicapped/non-handicapped peer interaction (DeKlyen & Odom, 1989). Selection of "social" toys and other responsive environmental objects that allow the child to initiate social interaction may also be helpful (Beckman & Kohl, 1984).

Increasing symbolic play development is of great interest among early interventionists and the methods of modeling and reinforcing symbolic play that are used by mothers of toddlers (Miller & Garvey, 1984) may be very useful in the early intervention classroom. Modeling by adults can demonstrate symbolic roles and scripts but the use of coaching or "successive play prompts" may also be necessary, especially for severely impaired children.

Although many programs are beginning to use play methods of intervention, the effects of these methods are not yet clear.

Suggestions for Educational Intervention. Rogers (1988) states that play intervention should provide the "models and materials which stimulate the most mature play levels of which the child is capable" (p. 166).

Play intervention programs for special needs toddlers may have a different balance of types of play than a typical toddler program, which includes a high proportion of free play time. Depending on the levels of delay or disability of the children, there may be a higher proportion of guided or directed play, as well as "work disguised as play" (Bergen, 1987). That is, the adult's role may be more prominent in play intervention programs than it is in typical programs for two and three year-olds.

Because many at-risk children are less initiating of interaction with the objects and people in their environments, it may also be necessary for the early interventionist to be more directive in the play process. Especially if the educational plan includes specific skills that are to be developed through playful approaches, there may be a great deal of "work disguised as play" in the program. Distinguishing between "genuine" play and playful methods of teaching very specific skills (i.e., feeding, communicating needs) is sometimes difficult. Unfortunately, some programs seem to be very

heavy on the latter. Integration of skills teaching into the play routines can be effective in improving both play and other developmental domains (Dunst, 1981).

Free play time can be very facilitative of the children's development, however, especially if the setting includes specially adapted toys that can be manipulated independently by children with disabilities. Many early intervention programs for at-risk toddlers follow a model that is highly similar to programs for non-handicapped toddlers and many of them include non-handicapped peers.

They typically focus on aspects of sensorimotor play development and on interactive social game routines. However, symbolic play development may be an intervention goal for some at-risk toddlers. Models of developmental change in social pretend play may assist in planning these interventions (e.g., Goncu, 1987). The design of environments for young special needs children has also been of major interest and some excellent indoor and outdoor environments have been designed. (e.g., Olds, 1982; Moore, et al., 1979). Too often, however, environments are not well designed for optimum play development.

Reaching Early Intervention Goals Through Play: Some Examples from Research and Practice. Some examples of the uses of play in early intervention may be useful in describing these approaches. They are drawn from Miami

University's program in early intervention. The program trains early intervention specialists, early childhood special educators, and developmental school psychologists.

The following examples of play-based assessment have been collected by graduate students (practicing school psychologists and school psychology pre-service students) who are taking coursework in early childhood assessment. The examples are not meant to be definitive or comprehensive assessments but are presented to suggest the types of information that can be gained in play settings. Appendix 1 describes the examples and shows exerpts from the various structured observation records.

Insert Examples About Here

The set of examples just presented gives an indication of how play-based assessment can be a useful way to get specific information for developing an educational plan, how the information can inform a comprehensive multifactored diagnostic assessment, and how it can be of assistance in screening at-risk children to determine their need for a diagnostic assessment. However, whether play-based assessment models can or should supplant the pervasive psychometric approach to assessment is a matter of debate at the present time. Prevention and Intervention Through Play. In conjunction with the early intervention training provided at Miami, a

reverse-mainstream toddler program is housed on the campus. The program is jointly sponsored by the university and the county board of mental retardation and developmental disabilities. Students have practicum experiences in the infant/toddler on-campus setting and at the MR/DD facilities in two counties. The county programs also have home visitor programs in which early intervention specialists work with parents and children in their home setting. Both the on-campus program and the MR/DD field programs are play-based; however, the extent of the focus on play varies with the teachers and with the types of developmental delay of the children in each class. The examples of how play is used in prevention and intervention are drawn from studies conducted in these programs. They are described in Appendix 2.

Insert Examples About Here

Play as an Intervention Tool: Questions and Concerns

There are many reasons why play-based approaches can be useful in furthering the goals of early intervention and a number of positive outcomes can be expected from special educators' increased emphasis on play. However, when play is used to achieve the instrumental goals of early intervention, is it transformed into something other than play? Does it continue to have those characteristics that most early childhood educators would expect to be present in an activity labelled play?

In order to be considered play, an activity must contain some level of the elements Neumann (1971) identified: internal control, internal motivation, and internal reality. The player (i.e., the child) must be able to decide what to play, how to play, and who to play with (internal control element), must have some choice about whether or not to play and when to play (internal motivation element), and must be able to bend the realities of the situation enough so that risks can be taken without consequences and the play frame can be recognized and negotiated (internal reality element).

Most play theorists would also say that an activity must be experienced as enjoyable in order to be considered play. They further state that the means (i.e., the process) rather than the ends (i.e., the product) are most important in play. Even early childhood educators have not resolved the question of when does the teacher's use of play to reach curricular goals in the classroom change the nature of the experience into not-play. In special education, this question is even harder to resolve because of the goal-oriented, directive, and adult-sequenced model of education that special educators have traditionally believed is necessary in order for learning to occur in children who are handicapped and/or at risk for developmental delay. The elements crucial to play can be easily lost when psychologists, parents, or teachers are so intent upon reaching their own goals that

they ignore childrens' goals.

According to Sutton-Smith (1987) the more that play is used to meet educational goals the more it becomes devoid of the irrational and joyful qualities that make it so important to children. His concern as to how the festive (irrational) play of childhood can be preserved in the face of so much educational (or rational) play is one that must be considered by designers of play-based early intervention.

Adults are likely to change the nature of play when they become directors and facilitators of play. For example, too much "silliness" is usually frowned upon. Although adults may permit non-handicapped children to engage in play that does not lead directly to learning goals, they may not believe that the handicapped child has time to "just play." If play is to be used appropriately in early intervention, it must be evaluated not only in terms of its effectiveness in meeting intervention goals but also in relation to its role in helping children to feel in control of their lives, use their preferred modes of interaction, and freely imagine a wide range of possibilities. While this may be more difficult for the handicapped children to do, it is also crucial to the development of their self-worth and their competence.

Where is Play in Play-Based Assessment? There is no question that developmental levels and delays may be effectively assessed by a team of specialists observing

children in a play environment. Setting up a play-based assessment process is certainly to be preferred to inappropriate structured testing of young children. The team approach works well within this model and it can also be designed to be cost effective. Whether the children who are brought in to the play setting to be assessed are truly in control of their play is difficult to evaluate. However, if the team maintains sensitivity to the elements that should be present for play to occur, the method can be successful without distorting the meaning of play. Even if play-based assessment is well done, in many states it is not a sufficient assessment method because an IQ score must still be used to determine eligibility for early intervention. In those cases, play-based assessment is at most seen as an alternative that can be used in addition to the "real" test. Perhaps it is better to keep play-based assessment as an alternative model rather than to shape it to fit psychometric goals. If it were to become the accepted model of early assessment, it might become standardized, with norms developed and discrepancy scores calculated. In past years, special educators transformed the body of normative developmental knowledge into precise developmental "milestones" that are now used on criterion-referenced tests. That type of structured transformation could happen to play-based assessment.

Probably the best use of play-based assessment is through naturalistic observation by teachers or other specialists within the on-going early intervention classroom. In this context, it can be the ideal way to monitor the developmental progress of young children and to determine whether the sequence and quality of their play development as well as other domains of development are proceeding as expected. However, if play is watched too closely it may not be experienced as play by children. Special needs children already have more adult monitoring of their lives than other children do; if their play is also being monitored, what life-space/play-space is left for them alone?

As play-based assessment becomes increasingly accepted as a more appropriate method for evaluating young at-risk children, early childhood special educators must pay attention to what may be lost as well as gained in using play as an assessment tool.

Where is Play in Parent-Child Social Interaction? Recent attention to the importance of social play development in at-risk young children and of the role parents have in assuring that development through responsive interactions is a very positive early intervention approach. However, many of the descriptions of the play training given to parents suggest that these "play" sessions are anything but playful. Teaching parents to imitate their children's actions, to initiate specified interactions, or to provide contigent reinforcement of their children's

social play is a difficult task. Although the sessions are designed to lead to genuine play interactions between parent and child, the behaviors that parents may need to acquire can only be achieved through some level of parental effort. Thus, in attempting to prevent developmental delay by increasing appropriate social play routines between parent and child, the early interventionist must again face the question of whether the use of play as a prevention strategy destroys the playful nature of the interaction. Of course, even if the training is not able to reproduce an actual play interaction, the alternatives of lack of interaction and asynchronic patterns of interaction may be even less desirable.

Parent training methods that encourage parental imitation of the naturally occurring actions of their children seem to be most likely to preserve a sense of playfulness during the interaction learning phase. Training methods that require parents to perform a series of interactive behaviors or to focus on specific ways of changing their own behaviors or their children's behaviors may not be experienced as playful at the time they are being learned. However, if the new patterns can be established and result in more responsiveness from the children, the social interaction may become an enjoyable, playful event that parents and infants will want to continue.

The research is clear concerning the value of parent-child social play routines. However, as the skills of social interaction are taught to parents the early interventionist must keep in mind that the goal is to experience these interactions within the context of play. Eventually, children should feel a greater sense of control over their own actions if the social play interactions result in strengthening their ability to elicit and respond to the actions of parents. In giving training or advice to parents, early interventionists may need to focus on making learning enjoyable for parents and on giving them a sense of control over the play.

Where is Play in Play Intervention? Interventions designed to minimize or remediate delay through playful approaches in the early intervention classroom are increasingly advocated in the literature. These play-based interventions have the potential to support both children's play development and the development of many other skills that are promoted during play. Although these strategies may be preferred over behaviorist intervention strategies, the play strategies often run the risk of not being playful because they lack a sufficient number of the characteristics that turn the activity into "real" play.

For example, the image of the play-activist teacher, which is a common one in early intervention, is not the typical model that is promoted in early childhood education. The typical early childhood model focuses on

setting up of an environment that is facilitative of child initiation of play. Indeed, child control, motivation, and reality are all promoted in the free and guided playtimes of programs designed for children who are not at-risk for developmental delay.

This model may not be sufficiently structured or directive for at-risk children who need play intervention. At-risk and handicapped children may not be initiating of or responsive to parent or peer social play interactions; they may not actively seek out sensorimotor play because of limitations due to their handicaps, and they may have difficulty engaging in symbolic play without direct modeling and encouragement of imitation. Further, they may need adult-activist interventions to promote development of other domains, such as language, even during periods when they are engaged in self-initiated play.

One way that child control and motivation can be promoted is through adapted toys that allow children to have access to and thus control over their sensorimotor play experiences. Adapted environments that provide safety with appropriate levels of challenge can be very facilitative of play development. The activities of the program can also be structured to maximize the social play influence of peer models. The early intervention specialist must be alert to opportunities to provide scaffolding of play experiences so that no more help is

given than is needed by the children. At all times the question remains, however, as to the balance between adult-directed play and child-controlled play. Given the very directive nature of traditional special education approaches, play interventions always run the risk of becoming "work disguised as play" rather than play. The potential for transforming play into work is a concern that has been discussed in special education journals as well. For example, Jobling (1988) cautions that "play for its own sake" should not be lost in the process of using its benefits in the service of early intervention.

In conclusion, I believe that the three play-based directions that are gaining increasing emphasis in early childhood special education are useful and viable options, especially for young at-risk children. As they are implemented, however, early intervention specialists should be well aware of the elements that must be maintained if an activity is to be appropriately called play. It is important that early childhood educators and early childhood special educators are clear about what play must have to be truly play and to maintain those elements as they use play in early intervention.

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Appendix 1

Play-Based Assessment Examples

Example 1 is an assessment of the play skills of two toddlers using an observation instrument that recorded time samples (every 30 seconds) of types of social play, with categories taken from Parten, 1932. Although the first child (22 months), observed in a mainstream day care setting, had been judged to be biologically at-risk for delay because of some severe medical/nutritional problems, his social play level appears to be well within the normal range for toddlers. He exhibits onlooking (18%), solitary (15%), parallel (10%), associative with peer (39%), and cooperative (turn-taking with peer) play (18%) during the observation period. The second child, observed in an early intervention setting, presents a different pattern, indicating a more limited level of social play. This child has already been identified as having an established risk (developmental delay). Her consistent exhibiting of the social play level shown on these records (7% onlooking, 55% solitary, 3% parallel, 32% associative with adult, 3% non-play) would indicate that she may need intervention to assist her in developing her social play skills.

Example 2 is an assessment of the communicative intention of two pre-linguistic children during play time, using the method of event sampling of each instance of intention to communicate during a 30 minute period. The analysis of the communicative intentions of the two children show very different patterns. The first child (34 months), referred to early intervention because of environmental risk, had 13 incidences of communication during the observation period. Twelve were (correct) responses to adult communication, indicating that, although she is not yet verbal, her receptive language ability is developing. The second child (43 months), was referred to the early intervention program because of language and other developmental delay. He had only 4 incidences of communicative intention during the 30 minute observation, even though adults directed many verbal remarks to him during that time period. Since this observation, additional diagnostic assessment has been conducted; this observation showing his lack of communicative intention gives support to the tentative diagnosis of autism.

Example 3 is an assessment of two toddlers, using a running account of 30 minutes, with content analysis of language and peer interactions. The two children show different language and peer interaction patterns. The account of the first child (31 months), who is biologically/medically at-risk, indicated that she uses few distinguishable words, none of which are object words. She also used no words in combination. She initiated no peer interactions during the observation and responded negatively to those initiated by peers. She responded positively to four comments from the teacher and negatively/non-responsively to five comments. The second child (21 months), referred because of environmental risk, uses object words (baby, baba for ball, dider for spider, pupkin) and one action word (hep for help) and clearly indicated the ability to comprehend language (7 positive and correct responses to teacher comments). She also initiated and responded to peer interactions. Her behaviors appear within the normal range for her age.

TYPES OF PLAY

CHILD: E. AGE: 22 MONTHS OBSERVATION TIME: 30 MIN.

Time	Onlooking	Solitary	Parallel	Associative	Cooperative	None
:30		✓				
1:00		✓				
1:30		✓				
2:00		✓				
2:30		✓				
3:00		✓				
3:30			✓			
4:00			✓			
4:30			✓			
5:00				✓		
5:30				✓		
6:00				✓		
6:30				✓		
7:00				✓		
7:30					✓	
8:00					✓	
8:30					✓	
9:00					✓	
9:30				✓		
10:00				✓		
Total %						

TYPES OF PLAY

CHILD: J. AGE: 32 MONTHS OBSERVATION TIME: 30 MIN.

Time	Onlooking	Solitary	Parallel	Associative	Cooperative	None
:30		✓				
1:00		✓				
1:30		✓				
2:00		✓				
2:30		✓				
3:00		✓				
3:30		✓				
4:00		✓				
4:30		✓				
5:00		✓				
5:30		✓				
6:00		✓				
6:30		✓				
7:00		✓				
7:30		✓				
8:00		✓				
8:30		✓				
9:00	✓					
9:30	✓					
10:00	✓					
Total %						

PRELINGUISTIC COMMUNICATIVE INTENTIONS

CHILD: M. **AGE: 34 MONTHS** **OBSERVATION TIME: 30 MIN.**

	Two-minute Intervals																	
Attention-seeking																		
Request object																		
Request action							✓											
Request information																		
Protest																		
Greeting																		
Answering	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓					
Acknowledge-ment of other's speech																		
Other																		

LANGUAGE AND PEER INTERACTIONS

CHILD: A. AGE: 31 MONTHS OBSERVATION TIME: 30 MINUTES

EXPRESSIVE LANGUAGE

boom (spontaneous, repeatedly)
--after seeing teacher hit hanging object

shout/cry
--having difficulty getting in chair

gestures (prompted by teacher)

garbled string of sounds (on "phone" with teacher

scream/cry (pull toy tips over)

RECEPTIVE LANGUAGE

teacher calls name
--moves away from teacher (1 time)
--does not respond (3 times)
--turns head slightly (1 time)

teacher says, "sit down A."
--sits in chair

teacher asks if she would like a book--reaches for book

teacher (repeatedly) directs her to bounce ball--throws ball

teacher asks her to knock on door--does not respond

INITIATED PEER INTERACTION

none initiated

RECEPTIVE PEER INTERACTION

Z. tries to hug her and help her out of chair--pushes Z. and screams

Z. takes ball--screams and chases after Z.

Z. tries to hug her--permits without screaming

Z. tries to hug her--falls to ground, no cry or attempt to get up

LANGUAGE AND PEER INTERACTIONS

CHILD: L. AGE: 21 MONTHS OBSERVATION TIME: 30 MINUTES

EXPRESSIVE LANGUAGE

laughs (when building tower)

"I _____ (not distinguishable)

"dider" (for spider)

"baby" (sees A. pick up baby doll)

"wants baba" (ball)

"baby"

"Hep" (help, while picking up toys)

"Pupkin" (pointing to pumpkin)

"dider" (watches artificial spider)

RECEPTIVE LANGUAGE

teacher asks, "can you clap?" --claps hands

teacher asks, "can you find the baby's shoes?"--points to nose "can you find baby's toes?"--points to toes

teacher asks her to put book away by the chair--points to chair, then puts book on different chair

teacher asks, "where's Z., where's A.--points correctly

INITIATED PEER INTERACTION

Sees Z. and A. with books; holds out hand for book

Sees Z. with ball; holds out hand for ball

Sees A. scream; moves closer to teacher

RECEPTIVE PEER INTERACTION

Z. takes spider--watches his actions

Z. drops spider--searches for it

PRELINGUISTIC COMMUNICATIVE INTENTIONS

CHILD: J. AGE: 43 MONTHS OBSERVATION TIME: 30 MIN.

	Two-minute Intervals															
Attention-seeking																
Request object																
Request action					✓											
Request information																
Protest																
Greeting																
Answering	✓						✓									
Acknowledgement of other's speech											✓					
Other																

Appendix 2

Examples of Prevention and Intervention Through Play

As part of the case study of A., her teacher answered a structured interview that included her view of the important needs of at-risk toddlers and the program components that are essential in early intervention classrooms. Estimates of the amount of time per week each child in her class spent in various types of play and social interaction and the amount of time per month spent in play in home visits were also made by the teacher. The class includes one medically at-risk (A.), two birth history at-risk children (L. and C.), one environmentally at-risk child (P.), one global delay child (M.), and one non-at-risk (normally developing) child (Z.)

1. Teacher view of the early intervention program

Important needs of at-risk toddlers:
1. parent and home involvement
2. developmentally appropriate materials and activities
3. concern for all areas of development (holistic)

Major social-emotional needs:
1. communicative interaction
2. cooperative play with peers

Major intellectual needs:
1. functional use of objects in play
2. language development

Most important play need:
1. play with peers
2. play alone
3. play with adults

2. Teacher estimate of percent of time spent in various types of play by individual children within the classroom:

	A	Z	P	M	L	C
Free play	30	30	30	15	30	30
Guided play	10	23	23	15	23	23
Directed play	20	20	20	20	20	20
Work as play	10	10	10	10	10	10
Direct inst.	7	0	0	7	0	0
Routine Care	7	3	3	7	3	3
Nurturing	6	4	4	6	4	4
Sleep/Eating	10	10	10	10	10	10
Other	0	0	0	15	0	0

3. Teacher estimate of percent of time spent in various types of social situations by individual children within the classroom:

	A	Z	P	M	L	C
Observation	33	17	17	50	17	33
Interaction/obj.	33	17	17	40	17	17
Interaction/adults	17	33	33	10	33	17
Interaction/peers	17	17	17	0	17	17
Interaction/peer/ adults	0	16	16	0	16	16

4. Teacher estimate of percent of time spent in various activities during the home visits:

	A	Z	P	M	L	C
Discussing problems	83	NA	50	0	75	50
Observing child at play	17	NA	0	0	0	0
Helping parent to play with child	0	NA	25	50	0	25
Helping parent to do direct instruct.	0	NA	0	0	0	0
Modeling play with child for parent	0	NA	25	50	25	25
Modeling direct inst. for parent	0	0	0	0	0	0