

Developmental Screening, Assessment, and Evaluation: Key Elements for Individualizing Curricula in Early Head Start Programs

Developmental assessment is a process designed to deepen understanding of a child's competencies and resources, and of the caregiving and learning environments most likely to help a child make fullest use of his or her developmental potential. Greenspan & Meisels, 1996, p.11.

The developmental assessment of infants and toddlers in Early Head Start (EHS) programs is a continuous process throughout the entire length of the child's enrollment in the program. This technical assistance paper will define the concepts of *screening*, *ongoing assessment*, and *in-depth evaluation*; discuss "best practices" related to developmental assessment and reflected in the *Head Start Program Performance Standards* (Head Start Bureau, 1996); and illustrate the connection between developmental assessment and curriculum development.

Understanding Screening, Assessment, and Evaluation

The terms *screening*, *assessment*, and *evaluation* have distinct meanings and purposes and are defined in the *Head Start Program Performance Standards*¹.

Screening

In collaboration with each child's parent, and within 45 calendar days of the child's entry into the program, grantee and delegate agencies must perform or obtain linguistically

and age appropriate screening procedures to identify concerns regarding a child's developmental, sensory (visual and auditory), behavioral, motor, language, social cognitive, perceptual, and emotional skills. To the greatest extent possible, these screening procedures must be sensitive to the child's cultural background.

Grantee and delegate agencies must obtain direct guidance from a mental health or child development professional on how to use the findings to address identified needs.

Grantee and delegate agencies must utilize multiple sources of information on all aspects of each child's development and behavior, including input from family members, teachers, and other relevant staff who are familiar with the child's typical behavior. 45 CFR 1304.20(b)(1-3)



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¹ Please note that numerous disciplines (i.e. psychology, psychiatry, medicine, special education and early intervention) are concerned with developmental functioning and there may be slight variations in the precise definition of terms related to assessment and evaluation. The term "assessment" can refer to both an ongoing process of information gathering as well as a structured testing procedure. This paper will define these words as they are used in the *Head Start Program Performance Standards*.

The screening process is used to determine if developmental skills are progressing as expected, or if there is cause for concern and further evaluation is necessary. All children enrolled in EHS must receive a developmental screening within 45 days of entry into the program. The screening process is only the *initial* step of ongoing observations about the needs and resources of the child and family. Yet it is so important that this process is done well so that children with special needs are identified as early as possible. Furthermore, the screening process itself begins during the enrollment period as EHS staff build partnerships with families and initiate EHS services.

Screening for sensory, behavioral, or developmental concerns determines if further evaluation is necessary. It does *not* lead to a decision about whether a child *has* a developmental problem. Therefore, children who are referred for further, in-depth evaluation may or may not be diagnosed with a developmental delay. Based on the results of the screening, it is always in the child's best interests to obtain a more in-depth evaluation if parents or staff have a concern. Further, this initial screening is not the only time that a child can be referred for an evaluation. Since developmental assessment is an ongoing process, any time a concern arises about a child's developmental functioning it is appropriate to refer that child for an in-depth evaluation.



Sumter School District #17 Early Head Start,
Sumter, SC

Federal regulations require that programs obtain direct guidance from a mental health or child development professional on how to use the findings from the screening to address identified needs **[45 CFR 1304.20(b)(2)]**. This individual can help staff create appropriate screening procedures, identify methods for prompt follow-up on the results of the screening, and develop strategies for engaging families in the screening process.

Assessment

Assessment means the ongoing procedures used by appropriate qualified personnel throughout the period of a child's eligibility to identify:

- (i) The child's unique strengths and needs and the services appropriate to meet those needs; and*
 - (ii) The resources, priorities, and concerns of the family and the supports and services necessary to enhance the family's capacity to meet the developmental needs of their child.*
- 45 CFR 1304.3**

All children enrolled in EHS participate in ongoing assessment of their development. Ongoing assessment is both a formal and an informal process. Formal procedures for ongoing assessment may include the use of published developmental profiles or checklists; health and medical tests and procedures; and/or structured observations. Informal procedures include conversations with parents and caregivers or informal observations of the children in their daily routines.

Developmental assessment, as defined in the *Performance Standards*, encompasses all of the activities that provide information about a child's developmental strengths, needs, resources, and family priorities. Thus, both the screening process and the formal evaluation to determine eligibility for early intervention services (discussed below) are part of the ongoing developmental assessment of children participating in EHS programs.

Evaluation

Enrolled families with infants and toddlers suspected of having a disability are promptly referred to the local early intervention agency designated by the State Part C plan to coordinate any needed evaluations, determine eligibility for Part C services, and coordinate the development of an IFSP (Individualized Family Service Plan) for children determined to be eligible under the guidelines of that State's program. Grantee and delegate agencies must support parent participation in the evaluation and IFSP development process for infants and toddlers enrolled in their program. 45 CFR 1304.20(f)(2)(ii)

An evaluation is conducted to determine or diagnose a developmental delay and to develop strategies for intervention. Only children suspected of having a developmental delay are referred for an in-depth evaluation. The early intervention partners in the community are key resources for ensuring an effective approach to evaluation and early intervention. In addition, the Disability Services Quality Improvement Center (DSQIC)² in the region is an excellent resource for designing high-quality services for infants and toddlers with disabilities.

Commercially available tools for screening, ongoing assessment, and evaluation are available. However, screening, assessment, and evaluation of infants and toddlers is particularly challenging and there is tremendous variability in the quality of the tools that are available. Some of the challenges with conducting screening, assessment, and evaluation with this age group include:

- Young children have no or limited expressive language skills and can't "tell" you what they know or think.
- Each area of development is influenced by every other area of development and it is difficult to tease apart where a problem may occur.
- Young children are changing at an incredible rate.



Children's Home Society of Washington,
Auburn, WA

- Children's behavior reflects the values and culture in which they are raised and any judgment about child development must be done with sensitivity to cultural influences.
- Developmental problems in young children can be subtle and it takes much experience and knowledge of infant development to build acute observation and interpretation skills.

² A regionally based system consisting of seventeen (16) Head Start Quality Improvement Centers (HSQICS) and twelve (12) Disabilities Services Quality Improvement Centers (DSQICS) provides training and technical assistance to meet the needs of all head start grantees and delegate agencies. These centers are staffed with specialists in early childhood education and development, health, family and community development, program design and management, transportation and facilities. The Infant/Toddler Specialists serve as professional resources to Early Head Start programs beginning with initial funding through ongoing delivery of services designed to enhance quality programming for pregnant women, infants, toddlers and their families. These services are specifically targeted to meet the individual needs of each Early Head Start program. Contact information for the HSQICS and DSQICS is available on the Web site of the Head Start Bureau at <http://www.acf.dhhs.gov/programs/hsb/>.

Developing an Approach to Screening, Assessment, and Evaluation

The developmental screening and ongoing assessment of infants and toddlers requires thoughtful planning and specific attention to the elements that create an effective process. The *Performance Standards* do not require that a specific screening instrument or strategy be used. Rather, the Guidance³ (see sidebar) encourages a developmental screening *approach* that may or may not involve a formal, standardized screening instrument. However, a standardized instrument, as one piece of the screening process, can be a valuable device to organize and record observations and information related to the screening. A comprehensive screening approach should:

- **Be systematic** – The approach should include a method for documenting observations; a process for planning when, where, and how screenings will be accomplished; a system for communicating the results

Screening for Developmental, Sensory, and Behavioral Concerns:

The Head Start Program Performance Standards do not require that any particular strategy, instrument or technique be used. Appropriate procedures, however, should conform to sound early childhood practice and be valid, measuring what they are supposed to measure, and reliable, yielding consistent results over time and across users. Agencies consult with the program's content area experts in health, child development, and mental health, with parents, and with the Health Services Advisory Committee as they design and implement a developmental screening approach. Guidance related to 45 CFR 1304.20(b)(1-3)

of the screening to parents and other professionals; and a process for tracking change over time and the outcomes of any referrals.

- **Include observations of children's behavior and actions** – This process should include the observations of parents, EHS staff, child care providers, and others who regularly interact with the child.
- **Incorporate health and developmental history** – Through this process, information should be gathered about prenatal care and childbirth, timelines of when the child reached developmental milestones, and past and current health issues.
- **Consider family characteristics** – The approach should provide a description of the nature of the relationships between child and parents, the social and emotional support systems of the child and family, and other environmental or situational factors such as safe housing, employment, and quality child care.

Guidelines for Developmentally Appropriate Screening, Assessment and Evaluation of Young Children and their Families

The following guidelines were adapted from a publication of the Task Force on Screening and Assessment of the National Early Childhood Technical Assistance System (NECTAS) in collaboration with ZERO TO THREE (Meisels & Provence, 1989). The purpose of the Task Force was to provide assistance to States regarding policies and programs for children, ages birth through 5, with developmental delays or vulnerabilities. These “best practices” also are reflected in the *Head Start Program Performance Standards* and supporting Guidance materials.

1. **Screening, assessment, and evaluation should be viewed as services — as part of the intervention — and not only as means of identification and measurement.**

³ The Guidance materials, published alongside the mandatory regulations found in the *Head Start Program Performance Standards*, provide examples of how agencies might operationalize the standards. The Guidance also provides a rationale for the related standard, and is designed to stimulate ideas about how the standards could be implemented. The *Performance Standards* and the Guidance are available through the Head Start Publications Management Center on the Internet at <http://www.hskids-tmsc.org> or by calling 202-737-1030.

Screening, assessment, and evaluation are dynamic processes. These activities have an impact on the family and should be an integral part of family goal setting, parent education, and curriculum development. These processes are **not** just scores on paper that determine eligibility for services; they are tools to organize observations about a child's and family's needs and resources.

2. Processes, procedures, and instruments intended for screening, assessment, and evaluation should only be used for their specified purposes. Test developers design screening, assessment, and evaluation tools for specific purposes and any adaptation of that tool can seriously impair the results of the instrument. Anyone who uses a tool should be familiar with the purpose of the tool, how it was developed, and what it is intended to measure, as well as the limitations of the tool. Knowledge of test measurement principles, such as *reliability* and *validity*, is essential to selecting the most appropriate instrument and interpreting the results. (See Guideline 6 below, and Appendix A for more information about the concepts of reliability and validity and other terms related to developmental assessment).

3. Multiple sources of information should be included in screening, assessment, and evaluation. Children behave differently in different settings and with different people. They may be better able to demonstrate their competencies under certain conditions than others. In addition, developmental disorders are generally due to multiple factors. Thus, it is important, and required in the *Performance Standards*, that EHS programs utilize multiple sources of information on all aspects of a child's development and behavior. Some methods for gathering information include observations, verbal or written reports, work samples, rating scales, checklists, audiotape, videotape, or photography.

4. Developmental screening, assessment, and evaluation should take place on a recurrent or periodic basis. As noted earlier, change in the early years occurs at a swift rate. It is important to monitor developmental changes to identify challenges as early as possible and to meet the

evolving needs of families. Furthermore, children's behavior during a screening, assessment, or evaluation is often affected by situational factors – the child's familiarity with the setting and participating adults, energy level, hunger, mood, etc. Ongoing reassessment should occur in the context of the child's daily activities, in multiple settings, and be conducted by those who are working with the family and child. If a child is receiving early intervention services, the team of professionals (including the parents) working with the child and family should regularly meet to compare observations and make any necessary modifications in the services.

5. Screening should be viewed as only one path to further assessment or evaluation. Screening tools provide only a “snap shot” of a child's functioning. They also require the user to make inferences about a child's skills based on limited information. There is no single screening instrument that can capture the range of developmental skills and challenges that can occur in young children. Thus, even children who perform well on a screening tool should be considered in light of all the other factors that may have an impact on developmental functioning but are not revealed through a screening instrument. Examples of these other factors include health or social support vulnerabilities, family functioning, unstable housing, or exposure to violence. A more in-depth evaluation may be desirable when these additional factors are present.

6. Screening, assessment, and evaluation procedures should be reliable and valid. Reliability and validity are terms used to evaluate the quality of an instrument. The tools must measure what they are supposed to measure, give consistent information, be sensitive enough to adequately detect developmental deviations, and be appropriate for the cultural or ethnic group they are used with.

The *standardization* process is related to the reliability and validity of a test. Standardization refers to the uniformity of procedure in administering and scoring the test. This is the process the test developer uses to choose the test items or questions and the conditions under which the test should be administered (i.e., verbal instructions to the test taker, if and how the test administrator can

demonstrate a task, how many times the test taker can attempt the task, etc.). An important step in this process is the development of *norms*. The norms refer to the normal or average performance on the test and determine how much variation from the average performance is considered above or below average. The test must be normed on a large, representative sample of the population it is to be used with. Those who use standardized tests should investigate the standardization process to ensure that it is representative of the people who will be tested. For example, if the standardization sample for an infant screening tool consisted of Caucasian, middle-class children in a suburban neighborhood it would not be appropriate to use that tool with low-income, African American children from the inner city.

Standardization, reliability, and validity are critical to the use and interpretation of the results of the screening, assessment, or evaluation instrument. If these factors are in question, there can be little confidence in the results of the test.

How does the test user know if an instrument is reliable and valid? It is critically important that EHS staff investigate the materials they are considering for use with the families they serve. One method is to consult with a local university to locate individuals who have expertise in test measurement and can provide guidance to the EHS program. Other resources include staff or consultants from the DSQICs, Part C community partners, and the EHS program's Health Services Advisory Committee.

EHS staff can also use published reference materials to learn more about specific screening and assessment tools that are being considered for use with the children and families enrolled in their program. An important resource is The Buros Institute of Mental Measurements at the University of Nebraska. The Buros Institute publishes a series called *Mental Measurements Yearbook* that critically evaluates commercially available testing instruments. These reference books are available through academic libraries or can be ordered on the Internet. The Buros Institute Web site (<http://www.unl.edu/buros>) offers a fax-request service for specific test reviews, a classified subject index of all the tests that have been reviewed, and other

valuable resources to make informed decisions about the use of measurement instruments.

These test reviews are written for an audience that is skilled at analyzing test measurement. EHS staff may consider consulting with professionals who have expertise in this area and can interpret the technical information contained in the reviews. Appendix B provides a brief summary of the type of information that is found in the published test reviews of several popular screening, assessment, and evaluation instruments for infants and toddlers.

7. Family members should be an integral part of the screening, assessment, and evaluation process. The child's relationship and interactions with his or her caregiver should form the cornerstone of the assessment. Children will generally reveal their highest level of skills in the context of spontaneous, motivated interactions with caregivers. The evaluator can build on these interactions by coaching the parent to elicit certain behaviors or skills or by joining in the interaction.

As in all EHS services, parents are intimately involved in the screening, goal-setting, and decision-making activities. Parents' needs, priorities, and perceptions play a central role in all aspects of this process. EHS grantees are required to familiarize parents with the developmental procedures administered through the program, and ensure that the results of these procedures are understood by parents [45 CFR 1304.20(e)(2)]. Parents are involved in an ongoing process of sharing observations, setting priorities, and determining progress.

8. Screening, assessment, and evaluation should be conducted in natural, non-threatening settings and involve tasks that are relevant to the child and family. Children will demonstrate their true capacities when they are in a place that is secure and familiar, and with people whom they know and trust. Infants and young children may be particularly sensitive to unfamiliar caregivers and separation from trusted adults. In addition, the activities and materials should reflect the kinds of experiences and objects that are relevant to their daily life.

9. All tools, procedures, and processes intended for screening, assessment, and evaluation must be culturally sensitive. Most developmental instruments are developed to reflect the popular culture and its values and norms. EHS programs should take great care in selecting instruments and developing procedures that take into consideration the variety of backgrounds, languages, customs, and values of participating families.

10. Those who screen, assess, and evaluate young children should be well trained. It is a great responsibility to adequately assess children's strengths, needs, and challenges due to the decisions that are based on those assessments. To do this well, EHS staff need:

- excellent observational skills;
- a thorough knowledge of early development;
- an understanding of the proper use and interpretation of screening and assessment tools;
- relationship-building skills with both children and adults;
- knowledge of how to best use the results of a screening, ongoing assessment or evaluation; and
- the ability to effectively communicate those results to families and other professionals.

Given the considerable variation in the normal range of development during the early years, professionals must have sound knowledge of the typical sequence and timetable for different areas of development. This knowledge will allow the assessor to recognize what should emerge next in the

child's development, if the child is making adequate progress in obtaining new skills, and the quality of the child's skills in a given area. It will also allow the professional(s) to determine the appropriate strategy for making gains and meeting developmental challenges. This approach is far more desirable than using a score on a test to make a decision about developmental functioning.

Staff development experiences to strengthen these skills, as well as reflective supervision and consultation with experts, is essential for the delivery of high quality services.



Astor Early Head Start, Poughkeepsie, NY

Principles of Appropriate Screening, Assessment, and Evaluation

In addition to the above guidelines, EHS programs should consider the following principles of appropriate screening, assessment, and evaluation and some practices to avoid that were recommended by Greenspan, Meisels, and the ZERO TO THREE Work Group on Developmental Assessment (1996):

- **Developmental evaluation should follow a certain sequence.**

The steps in the process are:

1. Build an alliance with the parent/caregiver and discuss issues and concerns of the family;
2. Obtain developmental history and current family experience;
3. Observe the child in the context of spontaneous play with parents and/or familiar caregivers;
4. If appropriate, observe the interaction between the child and the evaluator/clinician;
5. Conduct specific assessments of individual functions, as needed; and
6. Use a developmental model as a framework to integrate all of the data to create picture of the whole child. Convey evaluation findings in the context of an alliance with families.

- **Screening, assessment, and evaluation must be based on an integrated model of child development.**

Developmental screening, assessment, and evaluation must take into account the full range of variables that influence a child's functioning. This integrated model includes the range of developmental domains (i.e., motor, cognitive, sensory, social and emotional capacities) as well as how the child organizes and uses his or her skills. An effort must be made to understand the child in relation

to his or her family, community, and culture and to examine how the child relates to the world around his or her. This approach requires that those responsible for screening, assessment, and evaluation find approaches that reveal the child *optimal* level of functioning. This necessitates observing the child over time and in different contexts.

- **Screening, assessment, and evaluation should emphasize attention to the child's level and pattern of organizing experience and to *functional capacities*, which represent an integration of emotional and cognitive functioning.**

The basic functional capacities of relating, interacting, and thinking will directly impact on the specific developmental skills under consideration. It is not just a question of whether or not particular skills exist, but how the environment supports the child's developmental functioning. These capacities include such skills as paying attention, relating and engaging, reciprocal or back-and-forth communication, and symbolic thinking. These capacities must also be understood in the child's particular culture and family context.

- **The screening, assessment, and evaluation process should identify current competencies and strengths, as well as identify the next step in the developmental sequence in order to facilitate growth.**

It is more useful to think about how to build on the



Young Families Early Head Start, Billings, MT

child's current capacities, than to merely describe deficits or lags in development. Too often an assessment focuses on the delay in development. Knowledge of typical child development and the progression of developmental skills help inform how to best support emerging capacities and build on what the child *can* do.

Practices to Avoid

- **Young children should never be challenged during a screening, assessment, or evaluation by separation from their parents or familiar caregivers.**

Separation from trusted and familiar caregivers places enormous stress on a young child and has no place in the assessment process. Children will rarely demonstrate their highest level of functioning under such stressful circumstances. As described earlier, parents have a critical role in the assessment.

- **Young children should never be tested by someone with whom they are unfamiliar.**

It is unlikely that children will demonstrate their highest abilities when faced with a strange examiner. This is an unnecessary challenge to the child and usually leads to less meaningful results.

- **Screenings, assessments, or evaluations that are limited to developmental areas that are easily measured should not be considered complete.**

Assessments that focus only on certain areas, such as cognitive or motor skills, are inadequate. The child's interactions with caregivers and functional capacities are critical elements of an evaluation. Assessments should not be conducted using a tool simply because it is available or because somebody is trained to use it. These types of assessments do not provide an integrated understanding of the child's capacities.

- **Formal tests or tools should not be the cornerstone of a screening, assessment, or evaluation.**

Formal tests are only approximations of a child's capacities in the real world. The limitations of formal tests

must be understood and taken into account. Formal tests for infants and young children have often been developed using methodology created for older children and it is debatable how much meaningful information can be derived from such test scores.

Screening, Assessment, and Evaluation in Relation to Curriculum Planning

Grantee and delegate agencies must use the information from the screenings for developmental, sensory, and behavioral concerns, the ongoing observations, medical and dental evaluations and treatments, and insights from the child's parents to help staff and parents determine how the program can best respond to each child's individual characteristics, strengths, and needs. 45 CFR 1304.20(f)(1)

Developmental Screening and Curriculum Planning

As defined earlier, the screening process is used to determine if a child's developmental skills are progressing at the expected level, or if there is concern about developmental functioning and a more in-depth assessment is warranted. By its very nature, a developmental screening is brief and global. Based on the results of the screening, the decision will be made that the child is functioning within normal limits, or that a potential problem requires a more in-depth evaluation. Regardless of the decision, the screening process itself provides a preliminary profile of the child's abilities, challenges, resources, and needs. All this information is a rich resource for individualizing the curriculum to support each child's particular learning style.

A word of caution: The results of a screening tool are *not* designed to be used for the purpose of developing intervention strategies. Rather, it is the *observations* about

developmental functioning gleaned from the screening process that enrich the curriculum experiences. For example, it would be inappropriate to take a task from a screening test and make that task a goal of the child's curriculum. To illustrate, a common item on a screening test for infants is "child can put one block in a cup." The action of placing objects in a container is not in itself meaningful. Staff must understand the underlying developmental functions of that behavior. In this example, the underlying developmental capacity is the ability to begin to combine objects in relational play. This occurs when a child begins to see the effects of his or her actions on the environment and understand that objects can relate to each other in some kind of meaningful way. Generally, this will lead to the child exploring and combining objects into more interesting effects and eventually into more complex actions and relationships between objects (e.g., putting on lids, opening doors, etc.). Thus, the goals of the curriculum would relate to the underlying

developmental capacities, not to the content of the screening tool, and should provide a variety of experiences to support the emerging capacities.

The *Head Start Program Performance Standards* define curriculum as a written plan that includes: the goals for children's development and learning; the experiences through which they will achieve these goals; what staff and parents do to help children achieve these goals; and the materials needed to support the implementation of the curriculum [45 CFR 1304.3(a)(5)]. The information from the screening process can help to refine and individualize the goals for children's development and learning. These goals will reflect the skills, interests, and areas of needed support that emerged during the screening process.

In addition to providing the *content*, or goals and objectives, to individualize the curriculum, the information gathered during the screening process can inform the *context*, or how the curriculum is implemented. Consider, for example, the characteristics of the environment that would support emerging developmental skills. If a newly mobile infant is continually motivated to pull up to stand, the environment should support this emerging skill by providing plenty of low surfaces to pull up on, and soft flooring for the inevitable falls. Another example is the case of a very young infant who, during the screening process, demonstrated increased distress and disorganization when handled by several people. Yet when the lights were dimmed and other sources of stimulation were eliminated, he became increasingly alert and responsive. This observation revealed how changes to the environment had an impact on this child's demonstration of his true capacities.



Murray Early Head Start, Murray, KY

Ongoing Assessment and Curriculum Planning

Ongoing observations about a child's unique skills, progress, interests, resources, and needs is at the heart of individualizing the curriculum. *Staff must use a variety of strategies to promote and support children's learning and developmental progress based on the observations and ongoing assessment of each child [45 CFR 1304.21(c)(2)].*

Some of these strategies include:

- recording children's behavior to identify current functioning and emerging skills;
- communicating with parents and other caregivers about behavior in the home or other settings;
- identifying different ways children learn and expanding the experiences to incorporate different learning styles; and
- modifying the materials, experiences, or environment to encourage new skills.

Developmental Evaluation and Curriculum Planning

Formal evaluations, as defined earlier, are conducted to diagnose a developmental delay and to identify strategies for intervention. EHS programs may have qualified staff to conduct assessments, or may collaborate with community partners, such as Part C agencies, to provide these assessments. The evaluation process provides an even more in-depth view into the child's skills, resources, and needs and is thus an even richer source of information for individualizing EHS services. Families of children who are diagnosed with a developmental delay will receive an Individualized Family Service Plan (IFSP), a written plan, that details the specific outcomes and intervention strategies the family and service providers have



Tennessee Cares EHS, Paris, TN

identified. The evaluation process and the IFSP provide critical information that can be used to modify the curriculum to best support the individual child and tailor EHS services to ensure that every child's individual learning style is best supported.

EHS program managers should pay particular attention to the *systems* that are in place to ensure that the information from the assessment is communicated to the EHS staff working directly with the child and family. Record-keeping, reporting mechanisms, confidentiality guidelines, and comprehensive planning all support the EHS program's ability to work effectively with families and community partners. This is particularly valuable for transition planning from EHS into Head Start or other community-based preschool programs [see 45 CFR 1304.20(f)(iii) and 45 CFR 1304.41 (c)(2)]. The assessment information that has been collected and used during the child's enrollment in EHS will help to determine the appropriate placement of the child and ensure that the child and family continue to receive the services and supports they need.

In Summary

- The formal processes of screening and evaluation serve unique purposes and are only one part of ongoing observations of the child's and family's needs, resources, and strengths.
- EHS staff have a responsibility to educate themselves about the appropriate use of formal and informal methods of evaluating children's developmental functioning and progress. Important decisions are made based on the outcome of the screening, assessment, and evaluation activities and each process requires particular skills and training.
- All levels of developmental assessment (screening, ongoing assessment, and in-depth evaluation) provide rich sources of information to meet the *Head Start Program Performance Standards* for individualizing the program. High-quality services demand attention to individual growth, changing circumstances, and evolving needs.
- The observations and information gathered for screening, assessment, and evaluation purposes are only one part of the process. Staff and families must then determine how to use the information. Using the information to best support young children and their families requires systems and procedures that support a careful analysis of the information, is responsive to ethical considerations, and helps staff and parents develop meaningful goals. EHS staff should consider precisely what information is necessary, how the information will be gathered, and what will be done with the information once it is collected.
- Management systems, such as record-keeping, play a critical role in the assessment process. It is crucial to have formal procedures for documenting observations, interpreting the results, and developing goals and activities to support the results of ongoing assessment. Effective systems for documenting and communicating about developmental progress provide a bridge from developmental assessment to individualizing the curriculum for every child.



Laconia EHS, Laconia, NH

References

- Greenspan, S. I., & Meisels, S. J. (1996). Toward a new vision of developmental assessment of infants and young children. In S. J. Meisels & E. Fenichel (Eds.), *New visions for the developmental assessment of infants and young children* (pp. 11-26). Washington, DC: ZERO TO THREE.
- Meisels, S. J., & Provence, S. (1989). *Screening and assessment: Guidelines for identifying young disabled and developmentally vulnerable children and their families*. Washington, DC: ZERO TO THREE.
- U.S. Department of Health and Human Services, Head Start Bureau. (1996). *Revised Head Start Program Performance Standards*. Washington, DC: Author.

Selected Resources for Screening and Assessment

Each resource in this section is followed by a brief description of its content. Some of the resources are designed for an audience with advanced understanding of the technical aspects of developmental assessment and the use of tests to measure developmental functioning; these are indicated with an asterisk(*). They are offered here for those who wish to deepen their understanding, or as resources to use with consultants who can support EHS programs in their efforts to make the most informed decisions about appropriate assessment instruments and procedures.

*Buros Institute, University of Nebraska. (1959-1995). *Mental Measurements Yearbook*. Lincoln, NE: Author.

This is a reference manual that is currently in the 13th edition. Experts in the field provide critical reviews of a wide variety of tests and measurements. The reviews in this reference manual are written for an audience with advanced knowledge of the technical aspects of assessment procedures.

Fenichel, E. (Ed.). (1997). Assessing and treating infants and young children with severe difficulties in relating and communicating. *Zero To Three*, 17(5).

This special issue of the *Zero to Three* bulletin is designed to help professionals treat and understand children diagnosed with Multisystem Developmental Disorder, Pervasive Developmental Disorder, and Autistic Disorder. The issue contains an especially moving essay by a father who chronicles the families' journey through initial concern, diagnoses, and treatment.

Fenichel, E. (Ed.). (2000). Responding to infants and parents: Inclusive interaction in assessment, consultation, and treatment in infant/family practices. *Zero to Three*, 20(4).

This special issue of the *Zero to Three* bulletin focuses on the interpersonal work of meeting the needs of families with infants and toddlers. The work of the Infant Parent Program at the University of California, San Francisco, is highlighted.

Gibbs, E., & Teti, D. (1990). *Interdisciplinary assessment of infants: A guide for early intervention professionals*. Baltimore, MD: Paul H. Brooks Publishing Co.

A textbook in infant assessment, this book has a particularly helpful chapter on understanding questions of measurement. Psychometric properties of tests are discussed in a simple, easy-to-read manner.

*Keyser, D. & Sweetland, R. (1985). *Test critiques*. Minneapolis, MN: Behavior Science Systems.

This reference manual provides critical reviews of tests in the areas of psychology, education, and human resources. A companion book, *Tests*, offers an annotated list of published instruments. *Tests* provides a detailed description with price and ordering information but does not evaluate the instruments.

Linder, T. W. (1993). *Transdisciplinary play-based assessment: A functional approach to working with young children*. Baltimore, MD: Paul H. Brooks Publishing Co.

This book offers a model for a team-oriented approach to assessing a child in a natural context. The manual provides helpful charts of developmental milestones, and charts to guide observations of a child's cognitive, language, motor, and social-emotional functioning in the context of play. A companion book, *Transdisciplinary Play-Based Intervention: Guidelines for Developing a Meaningful Curriculum for Young Children* (1997), goes beyond assessment to developing intervention strategies.

Meisels, S. J., & Fenichel, E. (1996). *New visions for the developmental assessment of infants and young children*. Washington, DC: ZERO TO THREE: National Center for Infants, Toddlers, and Families.

This book reflects the most current developments in the field of assessment and intervention. Clinicians, researchers, parents, and policymakers contributed their expertise and insight to describe assessment approaches at the cutting-edge of best practice.

Rosetti, L. M. (1990). *Infant-toddler assessment: An interdisciplinary approach*. Austin, TX: Pro-Ed.

The purpose of this text is to address the underlying issues and challenges inherent in the developmental assessment of infants and toddlers, and to provide some direction in tackling these concerns. The author provides background and rationale for the need for infant screening and assessment, and provides concrete suggestions for issues such as correcting for prematurity, models for service delivery, selecting an appropriate instrument, and personnel training issues.

ZERO TO THREE: National Center for Infants, Toddlers, and Families. (1999). *New visions for parents: A guide to understanding developmental assessment*. [On-line]. Available: <http://www.zerotothree.org/>.

This is a family information packet based on the publication *New Visions for the Developmental Assessment of Infants and Young Children*. The packet includes a letter to parents preparing for an assessment; a guide to understanding assessment; tips for preparing for an assessment; and definitions for frequently used terms. (These materials are only available on the ZERO TO THREE Web site.)

Appendix A

Definition of Common Terms¹

Assessment

The *Head Start Program Performance Standards* state:

Assessment means the ongoing procedures used by appropriate qualified personnel throughout the period of a child's eligibility to identify:

- (i) The child's unique strengths and needs and the services appropriate to meet those needs; and
- (ii) The resources, priorities, and concerns of the family and the supports and services necessary to enhance the family's capacity to meet the developmental needs of their child.

(45 CFR 1304.3)

Assessment is commonly referred to as an ongoing process by which qualified professionals, together with families, through standardized tests and observation, look at all areas of a child's development: motor, language, intellectual, social/emotional, and self-help skills. The assessment should identify both strengths and areas needing support. This term is often used interchangeably with "evaluation."

Developmentally Delayed/Disabled

A term used to describe infants and toddlers who need early intervention services because they:

- a. are experiencing developmental delays, a term used when a child has not achieved the skills and abilities expected to be mastered by children of the same age. Delays can be in any of the following areas: physical, social, emotional, intellectual, speech and language and/or adaptive development, sometimes called self-help skills, which include dressing, toileting, feeding, etc.; or

- b. have a diagnosed physical or mental condition which has a high probability of resulting in a developmental delay. Some examples include: chromosomal abnormalities; genetic or congenital disorders; severe sensory impairments, including hearing and vision; inborn errors of metabolism; disorders reflecting disturbance of the development of the nervous system; congenital infections; disorders secondary to exposure to toxic substances, including fetal alcohol syndrome; and severe attachment disorders.

Developmental Domains

Term used by professionals to describe areas of a child's development, for example: gross motor development (large muscle movement and control); fine motor development (hand and finger skills, and hand-eye coordination); speech and language/communication; the child's relationship to toys and other objects, to people and to the larger world around them; and the child's emotions and feeling states, coping behavior, and self-help skills.

Diagnosis

Term used to describe the critical analysis of a child's development in all the developmental domains, after reviewing all the assessment results, and the conclusion reached by such analysis. From this diagnosis, professionals should offer parents a precise and detailed description of the characteristics of a child's development, including strengths and the ways in which a child learns.

Early Intervention

Refers to the range of services designed to enhance the development of infants and toddlers with disabilities or at risk of developmental delay. These services should be offered, to the maximum extent possible, in a natural environment, such as the home or in community settings,

¹ These definitions were adapted from *New Visions for Parents: Terms Frequently Used in Developmental Assessment* (1999). The full list is on the ZERO TO THREE Web site at <http://www.zerotothree.org/>.

in which children without disabilities participate. Early intervention services that are under public supervision, must be given by qualified personnel and require the development of an Individualized Family Service Plan (see Individual Family Service Plan below), developed in conjunction with the family, to guide the early intervention or therapeutic services given to a child.

Early intervention services should also enhance the capacity of families to meet the needs of their infants and toddlers with disabilities. Services may include but are not limited to: speech and language therapy, physical and/or occupational therapy, special education, and a range of family support services.

Early intervention is sometimes used to refer to any systematic effort to improve developmental outcomes for young children.

Eligibility

Specific criteria of developmental delay that meets the eligibility level needed for publicly funded services. This criteria is unique to each state's definition. Children who have a diagnosed physical or mental condition or are experiencing developmental delays are “eligible” for services. In addition, states may choose to serve children who are “at risk” of developmental delay by making them eligible for publicly funded early intervention services. Children who may be “at risk” of a developmental delay, may be provided services in some states. Risk factors include:

- **established risk:** a diagnosed physical or mental condition that has a high probability of resulting in developmental delay;
- **biological/medical risk:** significant biological or medical conditions or event that give a child a greater chance of developing a delay or a disability than children in the general population; and
- **environmental risk:** caregiving circumstances and current family situations that may place children at a greater risk for delay than the general population. Examples include: parental substance abuse, family social disorganization, poverty, parental developmental disability, parent age, parental educational attainment, and child abuse or neglect.

Evaluation

Term that is often used interchangeably with “assessment.” However, in the context of services supported by the Individuals with Disabilities Education Act (IDEA) (see below), evaluation refers to a procedure that is used to determine a child’s eligibility for early intervention services.

There are three types of formal or structured instruments that may be used in the evaluation process:

A **norm-referenced** instrument is used to compare the performance of an individual child to that of the normative group. Group “norms” are developed by obtaining the performance of a representative sample. This is called the standardization process. The standardization is critical to the validity and reliability of a test. The normative sample should be comprised of a representative cross-section of the population for whom the test is designed.

The results of this type of test are generally presented as developmental ages, IQ’s, or percentile scores.

A **criterion-referenced** instrument is used to determine if a child has achieved mastery in a particular domain. The child’s behavior is measured in relation to a specific behavior, rather than to a normative group. The focus is on what the child knows or can do, not on how they compare to others.

Performance-based evaluations allow children to demonstrate their competencies by acting on the environment, solving problems, and interacting with others in a natural context. These evaluations attend to the quality of children’s skills and involve multiple sources of information.

IDEA

An acronym for the Individuals with Disabilities Education Act which provides grants to states and jurisdictions to support the planning of service systems and the delivery of services, including evaluation and assessment, for children, adolescents, and young adults (birth

through 21 years) who have or are at risk of developmental delays/disabilities. Funds are provided through the Early Intervention Program for Infants and Toddlers with Disabilities (known as part C of IDEA) for services to children birth through 2 years of age, and through the Preschool Grants Program (known as Part B-Section 619 of IDEA) for services to children 3 through 5 years of age.

Individualized Family Service Plan (IFSP)

A statement of the family's strengths and needs related to enhancing the development of the family's child, including specific statements about outcomes, criteria, and timelines regarding progress, specific services, provisions for service coordination, and dates for initiation, duration and reevaluation process.

Informed Clinical Opinion

A term that describes professionals' use of qualitative and quantitative information to assess a child's development, especially if there are not standardized measures, or if the standardized procedures are not appropriate for a given age or development area. Informed clinical opinion makes use of a practitioner's training, previous experience with evaluation and assessment, previous experience with children, sensitivity to cultural needs, and the ability to gather and include family perceptions as important elements in order to make a judgment.

Multidisciplinary Team

A group of people with different kinds of training and experience working together, usually on an ongoing basis. Professionals often use the word "discipline" to mean a "field of study," such as medicine, social work, or education; Therefore, a multidisciplinary team might include a pediatrician, an occupational therapist, a social worker, and an early childhood educator.

Norms

A pattern or average regarded as typical for a specific group.

Reliability

The reliability of a test refers to a statistical measure of the consistency or dependability of a test. Reliability is determined by statistical analysis. No test is 100% reliable due to "measurement error." There are always chance fluctuations in the testing environment. The reliability of a test is improved when the testing conditions remain uniform — the same environment, testing conditions, how instructions are presented, the materials used, etc. Reliability is always reported as a correlation coefficient. For research purposes, a reliability coefficient of .80 is sufficient, but for clinical purposes, a correlation of .90 or higher is necessary.

Screening

A screening tool is used to make a judgment about developmental progress in order to determine if further evaluation is necessary. The screening process helps an individual judge whether development is progressing typically or if there is cause for concern. A screening tool is not designed to provide detailed description of developmental functioning or to design intervention strategies.

Sensitivity

The sensitivity of a test is a statistical measure that indicates the proportion of children at risk who are correctly identified by the screening test.

Specificity

The specificity of a test is a statistical measure that refers to the proportion of children not at risk who are correctly excluded from further assessment.

Validity

The validity of a test refers to how well it measures what it is designed to measure. It cannot be determined in general terms, such as high or low, but only in reference to the particular use for which the test was designed.

Appendix B

Screening and Assessment Test Reviews¹

- **Ages & Stages Questionnaire**
- **Denver Developmental Screening II**
- **Battelle Developmental Inventory Screening Test**
- **Birth to Three Assessment & Intervention System**
- **Minnesota Child Development Inventory**
- **Minnesota Infant Development Inventory**

Each review includes a description of the instrument; information on standardization, reliability and validity; and the potential use of the instrument. Each review is a summary of a published evaluation of the tool and references follow each review.

Ages & Stages Questionnaire (ASQ)

Age range: 4 months to 60 months

Purpose: Parent completed child monitoring system

Publication Dates: Original Publication Date 1979, Revised 1991, 1994, 1999

Publisher: Paul Brookes Publishing Co.
P. O. Box 10624
Baltimore, MD 21285-0624

Description: The ASQ was designed to screen for developmental delays by evaluating an infant's development over time. The system consists of 11 questionnaires to be completed by the parent at 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 27, 33, 36, 42, 48, 54, and 60 months of age. Each questionnaire contains 30 items and examines development in the following five domains: communication, gross motor, fine motor, problem solving, and personal and social development. There are three choices parents can choose from in answering questions ("yes," "sometimes," "not yet"). Each questionnaire also provides

a section where parents can identify general concerns that may not be captured by questionnaire items. All items are written at a sixth grade reading level and a Spanish version is available. There is also a video tape available that provides guidance on how the system may be used in a home visiting context. Estimated administration time is 10-30 minutes. An Administration Manual provides information on using the system and scoring the questionnaires, and guidance is offered on how one might evaluate the usefulness of the system in their given program.

Standardization: The sample reported in the Administration Manual is comprised of 2,008 children from the states of Oregon, Hawaii, and Ohio. The sample includes children from a variety of ethnic (Caucasian, African American, Hispanic, Native American) and socioeconomic backgrounds. However, parents from Asian backgrounds appear underrepresented. Among the standardization group, data has been gathered on typically developing infants, as well as infants at risk for developmental delay due to medical and/or environmental risk factors. In fact, from 1980 to 1988 the research sample evaluated largely consisted of infants who were deemed medically at risk.

Reliability/Validity: Both test-retest reliability and interrater reliability data on use of ASQ have been found to be fairly acceptable. Interrater reliability, in this case, refers to the percent of agreement between the parent's rating and those of a professional. Validity studies have also yielded fairly positive findings. The underreferral rate (those with a delay but not picked up by the ASQ) across the 11 age intervals ranged from 1% to 13% while the overreferral rate (those identified by ASQ as having a delay where in fact no delay was found upon subsequent assessment) ranged from 7% to 16%. Sensitivity ranged from 38% to 90% across the 11 age intervals and specificity ranged from 81% to 90% across the age intervals.

¹ These reviews were compiled by the staff of the EHS NRC from published test reviews located in the references noted after each review. They do not represent the opinion of the EHS NRC and are offered here to illustrate the nature of the information offered in the resources available to the public to assist in making informed decisions about the use of measurement tools

Utility: Very few reviews have been published on the utility of this instrument. Current data on the reliability and validity of the tool suggest that it offers promise as an infant/toddler screening tool. See listing of references below for additional research data on ASQ. Please note that prior to the 1994 revision the instrument was referred to in the research literature as the Infant Monitoring System.

References:

Bricker, D., Squires, J., Kaminski, R., & Mounts, L. (1988). The validity, reliability, and cost of a parent- completed questionnaire system to evaluate at-risk infants. *Journal of Pediatric Psychology*, 13, 55-68.

Squires, J. K., Nickel, R., & Bricker, D. (1990). Use of parent-completed developmental questionnaires for child find and screen. *Infants and Young Children*, 3, 46-57.

Squires, J., & Bricker, D. (1991). Impact of completing infant developmental questionnaires on at-risk mothers. *Journal of Early Intervention*, 15, 162-172.

Denver Developmental Screening - II

Age range: 2 weeks to 6 years

Purpose: A screening tool to detect developmental delays

Publication dates: 1967-1990

Publisher: Denver Developmental Materials, Inc.
P. O. Box 371075
Denver, CO 80237-5075

Description: This instrument was designed to be a quick and simple screening tool to be used in clinical settings by people with little training in developmental assessment. The test is comprised of 125 items, divided into four categories: Gross Motor, Fine Motor/Adaptive, Personal/Social, and Language. The items are arranged in chronological order according to the ages at which most children pass them. The test is administered in 10 - 20 minutes and consists of asking the parent questions and having the child perform various tasks. The test kit contains a set of inexpensive materials in a soft zippered

bag, a pad of test forms, and a reference manual. The manual includes instructions for calculating the child's age, administering and scoring each item, and interpreting the test results.

The test items are represented on the form by a bar that spans the age at which 25%, 50%, 75%, and 90% of the standardization sample passed that item. The child's age is drawn as a vertical line on the chart and the examiner administers the items bisected by the line. The child's performance is rated "Pass," "Caution," or "Delay" depending on where the age line is drawn across the bar. The number of Delays or Cautions determine the rating of Normal, Questionable, or Abnormal.

Standardization: The original standardization sample consisted 1,036 children and approximated the occupational and ethnic distribution of Colorado. Children with known handicaps, twins, breech or premature birth, and adopted children were excluded. The re-standardization in 1990 included 2,096 children. The demographic characteristics of the sample approximate the distribution in Colorado which compared to the population of the United States is an overrepresentation of Hispanic infants, an underrepresentation of African American infants, and a disproportionate number of infants from Caucasian mothers with more than 12 years of education.

Reliability/Validity: This test has been criticized for a number of inadequacies. The fit between the test items and what the test is supposed to measure has been questioned. The most serious concern has been its lack of sensitivity in correctly identifying children with developmental delays, particularly children under 3 years of age. The standardization sample is not representative of the nation as a whole, but simply presents the age at which children in Colorado are able to do a variety of tasks.

Utility: This test is widely used due to its ease of administration and scoring. The weaknesses of this test are due to its psychometric problems and the tendency to miss children with developmental delays. Moreover, the use of this test on populations other than healthy, white, upper middle class children has been questioned due to

the standardization process. The DDST is intended only for screening purposes, and should not be used as an in-depth assessment of developmental functioning or to plan intervention programs.

References:

Keyser, D., & Sweetland, R. (Eds.). (1985). *Test Critiques*, Vol. I, pp. 239-251. Austin, TX: PRO-ED.

Buros, O. (Ed.). (1995). *Mental Measurements Yearbook*, 12th Edition, pp. 263-266. Lincoln, NE: Buros Institute of Mental Measurements.

Battelle Developmental Inventory Screening Test

Age range: Birth to 8 years

Purpose: General screening for developmental delays

Publication date: 1984

Publisher: DLM Teaching Resources
One DLM Park
Allen, TX 75002

Description: The Battelle Screening Test is a part of a larger test called the Battelle Developmental Inventory (BDI). The full-scale BDI is designed as a diagnostic assessment. The Screening Test is designed to identify children who are at-risk for delay and in need of a more comprehensive evaluation with the full-scale BDI. The Screening Test consists of 96 items in the areas of motor, communication, personal-social, adaptive, and cognitive development. Three methods of assessment may be used: administering the items to the children, observing the child in a natural context, and parent report. The manual provides adaptations that can be made for children with handicapping conditions.

Standardization: The standardization for the Screening Test is based on the data collected for the larger BDI. Eight hundred children participated and were selected according to race, gender, and geographic region according to the US Census Bureau. While the total percentage of minority children for the total sample was representative of the

national percentage, the sub-sample at any particular age

range may be quite small (e.g., only one minority male in the age range of 12-17 months). Also, the minority children included Hispanic and African American, but did not include Asian or Native American families. Children in poverty may also be underrepresented as the authors did not attempt to control for socioeconomic status. There is no mention whether children with handicaps were included in the sample.

Reliability/Validity: Only information on the parent BDI was available. One reviewer raised considerable questions concerning the cut-off scores. In many cases (46% of the age levels), the range of raw scores separating a moderate delay (-1 standard deviation) from a severe delay (-2.33 standard deviations) was 0,1, or 2 points. For another example, a child who receives a nearly perfect score (39 passes out of 40 items) on the Motor Domain, receives a rating of moderate delay at -1 standard deviation below average. Furthermore, children whose birthdays are at the borderline of the age intervals can have identical test performance but significantly different scores.

Additional concerns with this test include the fact that the examiner must collect their own test materials, and the test can be administered differently for each child. Therefore, the normative comparisons are flawed. An examiner cannot compare the performance of a handicapped child to the norms if the administration has been altered.

Utility: Given the psychometric inadequacies of this test, the reviewers recommend that the BDI Screening Test be used only as an additional aide in assessing a child's developmental skills, and not as tool to make a decision regarding a child's placement or referral. The error rates when using the cut-off scores is extremely high. They recommend that the cut-off scores not be used in making referral decisions, and that this test should not be used with infants under 6 months of age.

References:

Buros, O. (Ed.). (1990). *Mental Measurements Yearbook*, 10th Edition, pp. 23-31. Lincoln, NE: Buros Institute of Mental Measurements.

Keyser, D., & Sweetland, R. (Eds.). (1985). *Test Critiques*, Vol. II, pp. 72-82. Austin, TX: PRO-ED.

Birth to Three Assessment and Intervention System

Age Range: Birth to 3 years.

Purpose: To identify and assess developmental delays in young children and to design early intervention programs.

Published: 1986

Publisher: DLM Teaching Resources
One DLM Park
Allen TX 75002

Description: This is an expanded and updated version of the Birth to Three Developmental Scale. The kit consists of three spiral bound notebooks: 1) the manual for the Birth to Three Screening Test of Learning and Language Development; 2) the Birth to Three Checklist of Learning and Language Behavior; and 3) the Intervention Manual: A Parent-Teacher Interaction Program.

The Screening Test consists of a 4-page record form. The 85 test items are divided into five areas: Language Comprehension, Language Expression, Avenues to Learning (cognitive and perceptual-motor items), Social-Personal Development, and Motor Development.

The Checklist consists of an 11-page record form. The 240 test items are divided equally between, these same five areas, with 48 items in each domain. Each 6 month age range has six items per developmental area.

The items for the Screening Test and Checklist were selected from existing infant assessment scales. The test materials are not provided, but a list of needed items is presented in the manuals. The manuals also describe the administration procedures and criteria for scoring the performance as “Pass,” “Emerging,” or “Fail.”

The Intervention Manual provides an introduction and basic overview for designing an intervention program. The focus is on developing a curriculum for cognitive and language skill development, with little attention to social-

emotional development or engaging parents. The reviewer (see reference below) found the manual to be too superficial to use as a curriculum package or for developing an intervention program and warned that paraprofessionals should not be misled into thinking that assessment and intervention is as simple and straightforward as the manual leads one to believe.

Standardization: Consisted of 357 children, ages 4 to 36 months, from the states of California, Tennessee, and Utah. The group was balanced for gender, and rural versus urban environment, and the manual states that an attempt was made to include children from varying ethnic and socioeconomic status but does not give any data on who was actually included. The normative tables were developed with data from the earlier standardization sample rather than the current one, but no reason is given. Furthermore, the instructions for using the norm tables are confusing and did not make sense to the reviewer.

Reliability/Validity: For the Screening Test, the manual does not provide enough information regarding reliability and validity to adequately address these issues. The reviewer mentioned the lack of standardized test materials as a limit to the ability to compare test results between individual children. No data was provided on validity studies. Similarly, the manual for the Checklist does not provide information on how the checklist was constructed or any reliability or validity data. There is no discussion of how to interpret scores.

Utility: This instrument is described as a 3-part set for screening, program planning, and monitoring progress of at-risk or delayed children. The reviewer raised concern regarding the inadequate information regarding standardization, reliability, and validity. Thus the Screening Test was not recommended as a norm-referenced test. The Checklist could have some use as a way to monitor a child's progress in a program, but extreme caution should be taken not to interpret the child's performance in a normative way (i.e. as delayed or not) until further validity studies have been done. The Intervention Manual is useful as a brief

introduction or overview of the issues involved in designing an early intervention program, but many additional resources are needed to adequately address the complex needs of an early intervention program.

References:

Buros, O. (Ed.). (1992). *Mental Measurements Yearbook*, 11th Edition, pp.110-112. Lincoln, NE: Buros Institute of Mental Measurements.

Minnesota Child Development Inventory

Age Range: 1-6 years

Purpose: Screening tool to determine developmental status

Published: 1968-1974

Publisher: Behavior Science Systems, Inc.
P.O. Box 1108
Minneapolis, MN 55440

Description: This scale is a 320-item parent-completed questionnaire. There are eight domains: general development, gross motor, fine motor, expressive language, comprehension-conceptual, situation comprehension, self help, and personal-social. There are separate forms according to age and gender. Caregivers are instructed to read each statement and check “yes” or “no” if it applies to their child. Respondents must have an eighth grade reading level to complete the questionnaire. It takes approximately 30-50 minutes to complete. This test is designed to supplement a parent interview when questions of developmental delay have been raised.

Standardization: Items were selected on the basis of how representative it was of developmental skills, how easily observed by mothers in real life situations, descriptive clarity, and age-discriminating power. The standardization sample consisted of 796 children from Bloomington, Minnesota. The ages ranged from 6 months to 6 years. The number of boys and girls were equivalent.

The authors state that “the normative group should not be considered representative of white, preschool children in general” and “the norms should not be used for children from families of lower socioeconomic status or other ethnic backgrounds”.

Reliability/Validity: Limited information exists concerning reliability and validity. This test correlates well with other established measures of children’s abilities (e.g., Bayley, McCarthy, Cattell). The biggest concern was with the interpretation of the scores “percent below age level.”

Utility: One reviewer notes “The demographics suggest, and the authors concur, that this instrument is suited for use with white, middle-class, non-handicapped children from intact families of successfully employed fathers and unemployed mothers.” This instrument is meant to supplement a parental interview and should not be the only source of information about a child.

References:

Buros, O. (Ed.). (1985). *Mental Measurements Yearbook*, 9th Edition, pp. 991-992. Lincoln, NE: Buros Institute of Mental Measurements.

Minnesota Infant Development Inventory

Age range: 1-15 months

Purpose: Mother's observations of her infant's development

Published: 1977-1980

Publisher: Behavior Science Systems, Inc.
P.O. Box 1108
Minneapolis, MN 55440

Description: This instrument evolved out of the authors earlier work with the Minnesota Child Development Inventory (MCDI). Similar to the MCDI, the MIDI was designed to obtain a mother's observations of her baby's developmental functioning. It measures five domains: gross motor, fine motor, language, comprehension, and personal-social. The booklet contains 75 questions; there is one item for each month of age in each of five areas. There is no manual, and no scores are derived. 'The examiner determines developmental delay if the child's performance falls below the behavior of infants 30% younger.

Standardization: The standardization for this instrument is based on the standardization of the parent MCDI. Since there were no infants younger than 6 months in the sample, the placement of items in the early months is unclear.

Reliability/Validity: No information is given for this age range for either the MCDI or the MIDI.

Utility: This scale is presented as a method for involving parents in examining the development of their infant. Reviewers note that no information is provided on the psychometric properties, the standardization is inadequate, and there is no guidance on the interpretation of delay.

References:

Buros, O. (Ed.). (1985). *Mental Measurements Yearbook*, 9th Edition, Vol. II, pp. 995-996. Lincoln, NE: Buros Institute of Mental Measurements.