

Preparing Head Start Personnel to Use a Curriculum-Based Assessment

An Innovative Practice in the “Age of Accountability”

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The purpose of this investigation was to evaluate technical assistance and training of Head Start teachers and assistant teachers on the use of a contemporary curriculum-based assessment. A description of the technical assistance process used and the procedures for determining interrater agreement and assessment fidelity are presented. During the study, participating practitioners reliably scored assessment protocols and administered the curriculum-based assessment with fidelity within their classrooms.

Keywords: *technical assistance; professional development; authentic assessment; accountability*

Child assessment is an area of practice in early education for which clear, consistent guidelines are provided by professional organizations. Specifically, the National Association for the Education of Young Children (NAEYC) and the Division for Early Childhood (DEC) advocate the use of “authentic” assessment practices as the primary approach for assessing young children (DEC, 2007; NAEYC & National Association of Early Childhood Specialists in State Departments of Education, 2003; Sandall, Hemmeter, Smith, & McLean, 2005). *Authentic assessment* is defined as a process of documenting the learning and development of children during real-life activities and routines by familiar adults (Losardo & Notari-Syverson, 2001; Neisworth & Bagnato, 2004; see Ratliff, 2001, for specific assessment strategies) and is sometimes referred to as *naturalistic assessment* (Barnett & Macmann, 1992), *play-based assessment* (Bufkin & Bryde, 1996), *ecological assessment* (Haney & Cavallaro, 1996), or *contextualized assessment* (Bell & Barnett, 1999).

Many professionals have noted several advantages of authentic as opposed to traditional assessment models for young children. These advantages include (a) the observation of the process of a child’s learning (Nedeau, 2003), (b) assessment of a child over time and holistically (Losardo & Notari-Syverson, 2001), and (c) family involvement (Bagnato, Neisworth, & Munson, 1997). Conversely, many professionals have argued that traditional assessment models, which rely on standardized assessment protocols, may yield less accurate information

about young children (Bell & Barnett, 1999; Costello & Zarowin, 2002; Neisworth & Bagnato, 2004), do not adequately involve families (Myers & McBride, 1996), and are inappropriate for program planning (Bell & Barnett, 1999; Bufkin & Bryde, 1996; McLean, Wolery, & Bailey, 2004).

Although authentic assessment is recommended practice in early childhood education, professionals need to develop and disseminate clear criteria for achieving high-quality and accurate child assessment, particularly for accountability. We assert that child assessment should meet the following criteria. First, assessments used with young children should be used only for their intended purposes (e.g., screening, eligibility, program planning) and have evidence supporting the reliability and validity of the measures for those intended purposes (McLean et al., 2004). Second, assessments should have utility for instruction and intervention (Sandall et al., 2005). Third, whereas fidelity of implementation of interventions has been obtained frequently (e.g., Conroy, Dunlap, & Clarke, 2005; Hester, Baltodano, & Gable, 2003; Justice, Kaderavek, & Bowles, 2005), attention is also needed regarding *assessment fidelity*. For our purposes, we define assessment fidelity as the degree to which early childhood personnel conduct and conform to established assessment procedures and protocols (i.e., the assessment was performed and scored as intended).

Despite recommendations from early childhood professionals regarding the use of authentic assessment practices with young children, the contemporary “accountability movement” has refueled the debate about the best methods for gathering information on individuals and groups of children. As one of the first early education programs required to address national accountability mandates, the assessment debate has been particularly controversial in Head Start (Rothman, 2005). Within the zeitgeist of accountability, we sought to address a need to validate teacher-reported child assessment data with teachers in a sample of Head Start classrooms. In doing so, we implemented technical assistance procedures for preparing teachers and assistant teachers (hereafter referred to as teachers) to use a curriculum-based assessment in their classrooms. We then examined their accuracy in scoring the assessment as well as their fidelity in implementing the assessment procedures within classrooms. Our efforts underscore the critical nature of professional development activities with teachers while collecting meaningful child assessment data, which might be used for both program planning and accountability purposes.

Technical Assistance Procedures and Process

On the basis of the professional development and consultation literature (e.g., Knapp-Philo, Corso, Brekken, & Heal, 2004; McCollum & Catlett, 1997; Wesley & Buysse, 2006), we employed a framework that included (a) training over time, (b) on-site technical assistance, and (c) integration of training with programmatic and administrative structures. Elements of this framework have been identified as key components to high-quality consultation in early education (Zaslow & Martinez-Beck, 2005). For example, spacing trainings over time as part of a professional development package was found to result in positive child outcomes in language and literacy programs (Dickinson & Brady, 2006). In our study, the professional development model was program centered in that it focused on changing current program practices and not individual, child-specific technical assistance (Wesley &

Buysse, 2006). The technical assistance for assessment was part of a larger project titled Project LINK: A Partnership to Promote LINKages Among Assessment, Curriculum, and Child Outcomes and was integrated into ongoing professional development plans. Project LINK was a Head Start University Partnership funded to assist Head Start personnel in improving child outcomes, particularly in the areas of language, literacy, and numeracy. Project LINK had four components: (a) authentic assessment, (b) individualized child plans, (c) curriculum and instructional plans, and (d) portfolio development (see Hallam, Grisham-Brown, Gao, & Brookshire, 2007; Grisham-Brown, Hallam, & Brookshire, 2006, for Project LINK details).

The assessment used in Project LINK was the Assessment, Evaluation, and Programming System for Infants and Children (2nd ed.; AEPS; Bricker, 2002), a curriculum-based measure that has primarily been used for (a) determining children's strengths and emerging skills, (b) individualizing intervention efforts, and (c) assessing individual children's progress over time (Pretti-Frontczak, 2002). The AEPS was chosen for several reasons. First, it is criterion referenced, and each skill identified on the AEPS has a specific criterion that assists assessors in accurately judging whether the child can perform a particular skill (Brown, Kowalski, Pretti-Frontczak, Uchida, & Sacks, 2002). Second, the AEPS is an assessment that can be used with children from birth and 6 years of age. Therefore, the developmental abilities of Head Start children are within the established AEPS age guidelines. In addition, given that Head Start programs have been mandated to serve children with disabilities, it is highly probable that there may be 3- or 4-year-old children in Head Start whose developmental abilities are less sophisticated than those of most 3-year-old children. Third, the AEPS aligns well with the Head Start Outcomes Framework (Grisham-Brown, Hemmeter, & Pretti-Frontczak, 2005). Nevertheless, because the indicators on the Head Start Outcomes Framework are relatively general statements (e.g., "grows in abilities to persist in and complete a variety of tasks, activities, projects and experiences"), they are difficult to measure (an exception is "names 10 letters of the alphabet"). Therefore, it is often necessary to align assessments composed of observable and measurable items with Head Start content standards to document children's progress toward federal standards and outcomes. Grisham-Brown et al. (2006) conducted an alignment of AEPS items and the Head Start outcomes using steps similar to those found in the K-12 literature (Browder et al., 2004). Specifically, we matched each element of the Head Start framework with a goal item from the AEPS. We found that the majority of the Head Start outcomes could be linked to AEPS assessment items. Fourth, the AEPS was employed because it has published and unpublished evidence for its use across a wide range of early childhood programs and young children (e.g., Bricker, Yovanoff, Capt, & Allen, 2003; Gao, 2007; Macy, Bricker, & Squires, 2005; Noh, 2005). Finally, the AEPS is considered an authentic assessment and meets recommended assessment practices in early childhood (e.g., Bagnato et al., 1997), including (a) assessment of meaningful skills by familiar adults during daily activities, (b) involvement of families, and (c) linkage to program planning and intervention efforts (cf. Bricker, 2002). To support teachers in administering a curriculum-based assessment in an authentic manner, we employed a five-step process: (a) developing assessment activity protocols, (b) providing AEPS training to Head Start teachers, (c) performing weekly on-site technical assistance, (d) conducting a reliability training on AEPS, and (e) evaluation of assessment fidelity. A description of each component follows.

Assessment Activity Protocols for the AEPS

The first step of the technical assistance process was to embed items from the AEPS into a set of seven classroom activities (Going on a Bear Hunt, A Book About Me, Play-Doh, manipulatives, snack, dramatic play, story time). These assessment activity protocols allowed participants to assess AEPS items through observation of the children across daily routine activities. The activities were those that teachers could easily include in their daily schedule without disrupting classroom schedules and routines. For example, teachers offered the Play-Doh and A Book About Me activities as small-group options during center time, and the Going on a Bear Hunt activity was performed during outdoor playtime. Assessing children in this manner may yield instructional benefits. For example, assessing children within activities may help teachers understand how to better meet children's individual needs within developmentally responsive and enjoyable activities (Haney & Cavallaro, 1996). In addition, when teachers understand that assessment items may be well aligned with routine classroom activities, they might be more likely to recognize the linkage between assessment and instruction (Bufkin & Bryde, 1996).

Training for the AEPS

The second step of the technical assistance process provided teachers with 1-day and half-day training on the use of the AEPS. The 1 day of training was provided prior to administration of the AEPS and included (a) recommended assessment practices, (b) the general features of the AEPS, (c) specific AEPS scoring procedures, (d) authentic assessment activities, and (e) use the AEPS to guide program development. The 1-day training was performed before the beginning of the subsequent school year. The follow-up half-day training was conducted 1 year later, prior to the beginning of the school year. The second, half-day training included (a) a second review of AEPS scoring procedures, (b) a discussion of how to compare a child's performance to AEPS criteria, (c) an opportunity to practice scoring, and (d) a review of how to enter data into an online data management system. Technical assistance began following the first training and continued, on a weekly basis, until the project ended (see section below for full description of technical assistance activities). At the conclusion of each training, participants completed an action plan to guide them with subsequent implementation of the assessment practices within their classrooms. Participants determined (a) timelines for completing assessments within the required 45-day time limit (from the beginning of the school year), (b) schedules for implementing the assessment activities, (c) teachers' and assistant teachers' responsibilities for collecting the assessment data, and (d) types of support and technical assistance they needed from Project LINK personnel.

On-Site Technical Assistance for the AEPS

The third step in the technical assistance process included the provision of weekly technical assistance by Project LINK personnel. Technical assistance began just after each training was conducted. Technical assistance was provided on how to administer the AEPS during the 45-day period in which the Head Start personnel were required to complete the AEPS at the beginning and end of each school year. (Technical assistance on other

components of the Project LINK model was provided on a weekly basis throughout the remainder of the school year.) During these weekly technical assistance meetings, project staff members supported the participants in administering the AEPS by ensuring that they had and understood the assessment procedures and scoring, modeling how to conduct authentic assessment within preschools, and when necessary, assisting teachers with data entry into the online data management system. Technical assistance following training has been found to be effective in assisting early childhood teachers in learning and maintaining new skills (e.g., Bodrova & Leong, 2006; Ginsburg et al., 2006).

Reliability Training With AEPS

The fourth step in the technical assistance process was instructing teachers in accurately scoring the AEPS. The comparison for accuracy was interrater agreement with a well-trained AEPS professional (i.e., novice in comparison to expert assessor). During the reliability training, practitioners were afforded systematic feedback about how to accurately employ AEPS for child assessment. In addition, the reliability training allowed us to document participants' interrater agreement scores as part of an evaluation of authentic assessment practices for accountability purposes. The 6-hr training was conducted outside of work hours and was 7 months after the initial AEPS training. Videotaped assessment activities, which corresponded with seven assessment activities used in initial AEPS training, were developed and used to evaluate interrater agreement between practitioners and Project LINK personnel (videotaped assessment activities are available from the authors).

During reliability training, teachers were asked to review an activity protocol (e.g., Snack assessment activity protocol) and become familiar with the AEPS items associated with the activity. Items on the activity protocol were not listed in the same order as found on the AEPS Child Observation Data Recording Form, which are arranged by developmental area and are listed in a developmental hierarchy. Rather, items on the assessment activity protocols were listed and arranged more or less in the order in which they were likely to be observed during a given activity. During the initial practice session, participants watched a video segment of a snack assessment activity to gain an understanding of the activity as well as the children involved. Teachers were then asked to score AEPS items observed, and a Project LINK facilitator answered questions about scoring items or the activity. Last, the participants discussed their scores and the facilitator provided feedback.

Following the initial practice opportunity, the facilitator discussed the seven assessment activity video segments with a sample of AEPS items and provided each participant with a copy of the assessment activity protocols. The AEPS items on the protocols were again numbered according to the order in which they appeared on the video. The facilitator also reminded the participants as to which AEPS item they would see first, second, and so on. The facilitator then played the videotape to that point where the observed child demonstrated behavior related to an AEPS item. The video was stopped and the participants were instructed to independently score the item by comparing the child's performance to the stated AEPS criterion without discussion from other trainees. Participants scored the items using the rules outlined in the AEPS (i.e., 2 = child passed the item according to the criteria; 1 = child partially passed the item or passed it with assistance; 0 = child did not pass the item, even with assistance). The teachers then reported their scores for the activity, and

those scores were later compared to the scores of the third author. Interrater agreement was calculated using exact agreement for each rating for each AEPS item.

Evaluation of Fidelity With AEPS

The fifth step in the technical assistance process was the evaluation of the extent to which Head Start personnel collected AEPS data in the manner in which it was intended to be collected. We developed a fidelity measure that assessed six dimensions associated with implementation of the AEPS. These six dimensions were (a) the degree to which teachers have AEPS materials and activities prepared, (b) whether teachers appropriately determine which AEPS items to administer, (c) the developmental appropriateness of materials employed within an AEPS assessment activity, (d) whether teachers allow child choice in whether they participate in AEPS assessment activities, (e) the degree to which teachers insert assessment items into routine classroom activities, and (f) the extent to which teachers appropriately record AEPS scores on assessment protocols. Teachers were observed administering the AEPS in their classrooms for 10 min, and each of the six dimensions was assigned a Likert-type “authenticity score” ranging from 0 (*no authentic assessment procedures observed*) to 3 (*authentic procedures observed*). (For authenticity procedures, contact authors.) The assessment activities were the same as those used during the reliability training.

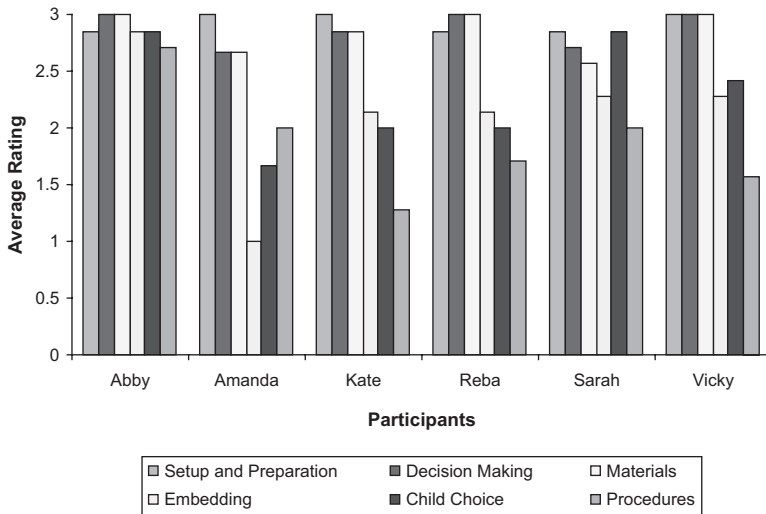
Participants

Project LINK was implemented with 18 teachers in nine classrooms in three sites in a Head Start program in Kentucky. Each participating classroom enrolled as many as 20 children with and without disabilities as well as some preschoolers who were English-language learners. Classrooms were staffed by one lead teacher and one assistant teacher, and participating teachers’ educational attainment ranged from high school to undergraduate degrees. To determine whether Project LINK technical assistance enhanced teachers’ abilities to appropriately employ the AEPS, we collected both interrater agreement and fidelity information.

Interrater Agreement Information for the AEPS

Because interrater agreement with a standard is an important aspect of assessment (in this case, a well-trained early childhood professional who has extensive AEPS experience), we obtained estimates for item agreement with 14 of 18 teachers during the reliability training. Of the 14 teachers who participated, 7 were lead teachers and 7 were teaching assistants, and 13 were females. Six participants self-reported their race as European American, 7 as African American, and 1 as Latino. The 14 teachers participated in the 1 day and half day of AEPS training. Additionally, prior to the reliability training, they had administered the AEPS on three occasions to children in their classrooms. Teachers’ interrater agreement scores with the AEPS expert ranged from 76% to 93%, with a grand mean of 87%. Only 2 participants’ interrater agreement percentages were less than 80% across the seven video probes (i.e., 79% and 76%).

Figure 1
Average Ratings on Six Authentic Assessment Variables Across
Observations and Activities by Participant



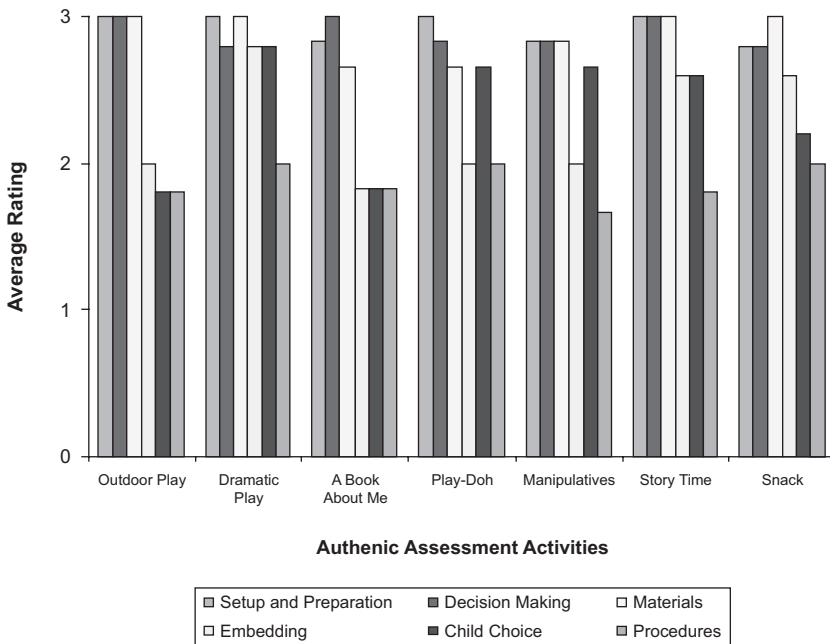
Fidelity Information for the AEPS

Because fidelity of assessment procedures is another important dimension of assessment, we collected fidelity data to examine the extent to which participants gathered AEPS information in the manner in which it was intended to be collected. We examined the degree to which participants were able to appropriately assess children using the AEPS during typical preschool activities and routines with a measure that assessed six dimensions associated with the implementation of the AEPS (i.e., an authenticity score ranging from 0, *no authentic assessment procedures observed*, to 3, *authentic procedures observed*). Of the 12 teachers who achieved 80% or higher interrater agreement, 6 teachers agreed to participate in the assessment fidelity evaluation. Four of the participants were lead teachers, and 2 of them were assistant teachers. Their educational attainment ranged from a high school to undergraduate degrees, and 4 were African American and 2 were European American. Figure 1 depicts individual participants' authenticity scores for each of the six dimensions of AEPS assessment. In addition, Figure 2 shows the average authenticity scores for seven assessment activities.

Discussion

Federal and state early childhood standards require educators to demonstrate the impact of early education programs on the children and their families they serve, particularly for publicly funded services. Unfortunately, many early childhood educators continue to rely

Figure 2
Average Ratings on Six Authentic Assessment Variables Across
Observations for Seven Different Activities



on norm-referenced or general assessment practices (e.g., early learning standards) that are difficult at best to translate into well-formulated progress-monitoring information and child outcomes. The technical assistance performed by Project LINK personnel supported the use of a contemporary curriculum-based assessment while also providing some initial inter-rater agreement and fidelity information. Our preliminary data indicate with a limited sample of participants that well-trained teachers can accurately score the AEPS using assessment practices that are recognized as authentic (cf. Bagnato et al., 1997). We also believe that systematic technical assistance is warranted for teachers and administrators to enhance their understanding that (a) early childhood assessment is not a single test given at one point in time, (b) high-quality assessment and instruction should be well integrated, and (c) assessment is necessary for high-quality early intervention and should be valued and supported by practitioners. It is worth noting that according to administrators of the Head Start program that participated in Project LINK, teachers continue to use authentic assessment practices as a way of collecting program accountability data. Given the length of time that has passed since the training (3 years), this anecdote speaks to the fact that the training positively influenced long-term practices.

Our evaluation of the AEPS technical assistance should be viewed with caution, particularly given the limited number of participants (i.e., 14 teachers for reliability training and 6 for the fidelity evaluation). As well, 1 of the participants (i.e., Amanda) in the fidelity evaluation component participated in fewer than half of the sessions (i.e., three), making

her results incomplete. In addition, evaluation data were collected in only one Head Start grantee and therefore cannot be generalized to other types of early childhood programs or even other Head Start classrooms. Moreover, whereas the AEPS has been demonstrated to have reasonable technical adequacy (see [http://aepslinkedssystem.com/research findings](http://aepslinkedssystem.com/research_findings)) and has been rated as an authentic assessment (Bagnato et al., 1997), it is inappropriate to make comparisons about the reliability, authenticity, or fidelity of the AEPS with other curriculum-based assessments that may be used for accountability purposes.

Reliance on authentic assessment processes by early childhood professionals as one means for addressing accountability requires the examination of assessments, implementation of accurate data collection procedures, and professional development systems. The teachers participating in this Project LINK received assessment activities protocols, intensive training on the AEPS, weekly technical assistance visits, and reliability training that focused on scoring accuracy. Therefore, participants who were involved in technical assistance activities were better prepared to use the AEPS than many practitioners who do not receive training. We encourage early childhood administrators to develop professional development systems and implement ongoing technical assistance with systematic follow-up activities (Erickson, Brandes, Mitchell, & Mitchell, 2005; Garmston, 2003; Ingvarson, Meiers, & Beavis, 2005). In addition, administrators should assure that practitioners have adequate planning time to prepare for and implement curriculum-based assessments. As state personnel develop their assessment and accountability systems, the integration of policies that promote the collection of individual and program-level information are sorely needed in the field of early childhood education. Moreover, collaborative research partnerships among local programs, universities, and state agencies are needed to enhance the accountability process. In the future, policy makers and researchers should continue to examine the technical properties and usability of measures used for accountability purposes. Specifically, they should replicate studies about technical assistance strategies for employing curriculum-based assessments with larger and more diverse samples of children, teachers, and early childhood programs and provide follow-up information about practitioner use after termination of the technical assistance.

The Project LINK model emerged from the needs of personnel in one Head Start grantee in an effort to align their day-to-day assessment practices with recommended early childhood practices. The technical assistance for the AEPS described in our article was an outgrowth of that model. To use recommended early childhood assessment practices for accountability, it will be necessary for early childhood personnel to accurately collect assessment data. Our initial findings hold promise for effective strategies to document children's progress toward child outcomes and child standards. As state personnel continue to develop and implement accountability systems for children, the "lessons learned" from Project LINK may prove useful.

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