The Child Outcomes Research Support Consortia: How an Ecological Systems Model of Development Can Frame a Research Strategy Related to Child Assessment and Outcomes

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Group 1:
- **Enhanced Head Start MAP Intervention: Linking Program Evaluation and Child Outcomes**
  Susan Dickstein, Alison L. Miller

- **Spokane Head Start Outcomes Initiative**
  Christopher Blodgett

- **Project LINK: A Partnership to Promote LINKages Among Assessment, Curriculum, and Outcomes in Order to Enhance School Success for Children in Head Start Programs**
  Rena Hallam, Jennifer Grisham-Brown

Group 2:
- **Implementation and Evaluation of a Collaborative Language and Literacy Training and Assessment Program for Head Start**
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- **Improving Outcomes for Head Start Children: ACTing Squared—Active Curriculum Training and Accelerated Child Trajectories**
  Victoria W. Carr, Mary Boat

Dickstein: Head Start was designed to be a protective, early learning environment for vulnerable preschoolers, providing an opportunity for young children to grow beyond the limits of poverty. Overcoming the barriers imposed by poverty is a formidable task. To achieve this mission, Head Start program performance standards require Head Start programs to assess and track child developmental outcomes in an effort to accomplish various program goals, such as to facilitate individualization of curricula, improve child functioning within the classroom, address staff training needs, and improve overall program performance.

However, simple monitoring of the progress of children is not enough to improve their early learning environments or to enhance their development. For example, successful utilization of outcomes information must not only yield group-level patterns of progress but also must provide feedback to staff about effective program components that facilitate linkages with strategies to enhance program implementation. By knowing what works, programs can incorporate relevant processes to support staff to most efficiently provide services that are directly associated with improvement in individual child-developmental outcomes.

Although much progress has been made in delineating important content domains of child-developmental assessment, there have been few empirically tested systems to guide Head Start in the mission of linking program practices with child outcomes of interest. In order to address this gap, the Administration for Children and Families (ACF) funded five research groups to study these issues. The Child Outcomes Research Support Consortium (CORS) was initiated 4 years ago, and each of the five projects has examined linkages between program practices and child outcomes in unique ways. As Consortium members have convened over the years to discuss research progress, outcomes data, and barriers encountered in program evaluation trials, it has become evident that the whole of the project together is truly greater than the sum of its parts.

As a group, the projects can be conceptualized using an ecological systems approach to address how effective program practices are developed to promote optimal child outcomes. Urie Bronfenbrenner's ecological model of child development is used as a heuristic for presenting, coordinating, and integrating child-outcome data amassed by these studies, each of which approach the task at slightly different levels of intervention. Bronfenbrenner said there is no such thing as a child; there is the child. Bronfenbrenner's ecological model posits that a child's developmental outcome is influenced by interrelated levels of factors that vary with respect to their defining characteristics, as well as to their proximity of effect on the child.

Each CORS project was designed as an intervention within at least one system for the purpose of ultimately improving child outcomes. Some interventions had multiple levels of influence. Although the five projects varied with respect to the target of the systems intervention, all were designed in part to determine how best to support teachers to promote optimal child developmental outcomes within Head Start classrooms. All have implications for mutual influences across systems levels to produce effective child outcomes.

Bronfenbrenner's levels will be briefly described in relation to how they pertain to each of the presentations. First, the microsystem is the immediate environment in which the child is involved, such as the child's relationship with the teacher, including the fit between the child's unique personality characteristics and the teacher's style and skill. The child's relationship with the teacher has important consequences for the child's developmental outcomes. One project was specifically designed to intervene at the level of the teacher/child interaction, using primary instruments of instructional and caring contacts (ICC) protocol and the curriculum-based measures developed or modified by the researchers. The ICC observation system was designed to assist in conducting observations of adult instructional and positive emotional contacts with the child in the natural preschool environment. It assesses performance standards in line with strong instructional practices supported by research and interactions that have a positive balance for the child.

The mesosystem involves the organized features of a system in which the child directly participates and has a defined role. An example of this system is the preschool classroom in which the child is a student. Various classroom characteristics, such as structure, organization, routines, and activities influence child developmental outcomes. Another project connected the Head Start Child Outcomes Framework with authentic assessment, linking child assessment, curriculum planning, and child outcomes. A language and literacy intervention

also trained Head Start teachers in four core areas of language and preliteracy skills. These projects specifically highlighted the implementation of curriculum design to ultimately enhance child outcomes.

Next, the exosystem is an environment in which the child has no direct role but which, nonetheless, influences the child. For example, the Head Start program has unique program administration features and a policy council whose decisions affect the children. Another project examined the impact of enhancing program evaluation practices within Head Start on child outcomes. A program evaluation tool was developed called the Head Start Manualized Assessment of Progress (MAP) that was embedded within the fabric of daily operations in the Head Start program.

Assessment is an ongoing and dynamic process that capitalizes on various sources of information including teacher interpretations of child behavior and abilities based on multiple experiences with the child. Assessment or rating of child progress is akin to hypothesis testing, such that it is the first step in a series toward fully understanding the child's strengths and needs. Finally, assessment only has meaning to the extent that it is linked with action or intervention and, in this case, with individualized programming in the classroom.

Finally, the macrosystem is the larger cultural context or social/political climate that is most distally related to the child. The move toward increased accountability in Head Start is the macrosystem context in which the Head Start program has been required to refine child outcomes assessments and to use outcomes information to improve program practices. Another project designed a replicable model of organization change in which local Head Start programs adopt an outcomes-driven model of program development. The focus was on helping Head Start use research evidence to support organizational development of management information systems and staff training, ultimately for the purpose of improving child outcomes.

In addition to delineating the four levels of systems that influence child outcomes, Bronfenbrenner's theory accounts for the fact that variability within each level of the system impacts outcomes at other levels of the system, and that the mutual influences occur over time. Head Start classroom teachers play a central role in accomplishing the goal of improving child outcomes and, as such, are required to establish effective relationships with children, keenly observe child development, creatively implement curricula responsive to individual child needs, and continually monitor and evaluate the results of their efforts. The extent to which these activities are supported by supervisors and administrators within the Head Start program, and are valued by sources that fund Head Start, have a ripple effect on the various systems that ultimately impact children's ability to succeed.

Reports from each of the five CORS Consortium members specifically address the following questions pertaining to links between intervention, assessment, and child outcomes: (a) What is the purpose of child assessment in each of the projects, and how does the intervention link with child assessment? (b) What supports or interventions are provided so that teachers are better able to assess child development? To what extent are assessments standardized so that teachers deliver specific manualized curriculum components and assess the child's progress

on those components, rather than being teacher-driven where teachers receive training or materials to use within the classroom or to enhance their ability to conduct the child assessment? (c) How can feedback to teachers, with respect to assessment, be translated into practice in the classroom to improve child outcomes? and (d) How can the influences of all these factors be understood at all ecological levels to influence child developmental progress?

Miller: The Head Start MAP Intervention focused on a system-wide program evaluation endeavor that impacts child outcomes, but at an exosystemic level where the child is not directly involved. The Head Start MAP Birth to 5 is a manualized assessment of progress, a paperwork system that the staff in Head Start use to assess child and family progress. It is integrated into the evaluation needs of the program and is used to give program evaluation feedback. It is embedded within ongoing Head Start program activities, and it is used by Head Start to individualize and coordinate service plans for children and families. At classroom level, it informs program curriculum planning, as well as providing feedback to the program for improvement purposes. It also facilitates communications with the community and within Head Start.

As people use this paperwork system, it generates data that are reported back to the teachers and to the program as a whole. Teachers observe children in their classrooms on a daily basis and engage in dynamic hypothesis testing about child strengths and needs. They also incorporate special needs of the child or services he or she is engaged with and incorporate that information from more formal testing and assessment. The Head Start program uses this paperwork system to provide supervision to the teachers, giving feedback about how individual children are progressing in the program and any curricula adaptations they wish to make regarding those children in order to individualize the program.

The child outcomes piece of this paperwork system focuses on the child outcomes framework domains such as language, literacy, social-emotional competence, science, math, and so forth. This system has developmental lesson-plan goal sheets, a goal-sheet packet that follows the child around during the course of his/her year in Head Start. The system breaks up each large domain, listing all the indicators in that domain and structuring teacher observations of child activities and achievements in that domain. A teacher decides whether the child is able to consistently do these things and, if so, marks it on his/her sheet.

In this developmental goal packet, teachers indicate whether or not these areas of focus are Individualized Education Plan (IEP) or Individualized Family Service Plan (IFSP) goals for the child. In reviewing these indicators and reviewing the domains of development for any given child, the teachers make monthly ratings of child development across the eight domains. Children can vary across domains. One child might excel in language but lag in behavior. Children's development is rated in all the domains, and then a summary score is calculated as a mean of all their ratings across domains. In addition to the goal-sheet packet that teachers complete on a monthly basis, they also complete a developmental plan and lesson-plan progress notes. This paperwork replaces the great majority of other paperwork that these teachers were expected to complete, therefore alleviating some of the burden. The progress notes also show how the teacher is adapting the curricula activities to meet the child's goals in that area.

The developmental readiness reviews generate data three times a year. The teacher rates the child's goals in each of the areas in fall, winter, and spring, then meets with the family who also give input into the report. The family and teachers together make a plan for furthering child progress. Feedback is built into the system. Care coordination summaries draw together different elements of the program staff who coordinate monthly team meetings to review child progress and coordinate service delivery. The system gives feedback to individual teachers about both individual children and the classroom. A teacher can judge how a class is doing in terms of literacy, math, and social and emotional development. That classroom-level feedback is also given to the program so that Head Start managers can designate professional development opportunities that would be most appropriate to offer.

The project looked at about 200 children in prekindergarten. At the beginning of the year in the fall semester, children generally exhibited some impairment in functioning or some difficulty or delay, but the skills emerge over time until they are developmentally on track. The study also related teacher ratings to standardized test scores for validation purposes. The standardized tests were administered in a one-to-one situation with an experienced independent tester, different from the teachers rating the children in classroom observation. The teacher ratings are related to standardized test scores, and results show that teachers are providing meaningful information, and they are able to do this using this paperwork system in the context of naturalistic interaction and observation of their children in the classroom setting.

To summarize, the Head Start MAP system is integrated into the program at many different levels. It serves the function of tracking and monitoring progress over time of individual children and families. It is used by teachers to inform classroom curriculum and individualization, and by program staff to improve the program. It also meets program accountability standards. The data show that children made progress over time in all developmental areas.

Blodgett: Research and practice meet in the middle in local Head Start programs. The best way to think of the Spokane Head Start Outcomes Initiative is as a single case study of how organizational-change principles can be applied to Head Start programs and the need for outcomes-driven decision making. Then reputable lessons are drawn for dissemination onto other sites. The Spokane Head Start serves 1,000 children in the city of Spokane, using a decentralized neighborhood-based program and a universally adopted Creative Curriculum. This project did not attempt to bring in classroom innovations. The curriculum was accepted and the aim was how to enhance the quality of the work done.

Adoption of outcomes-based information is a transformational and high-risk act. This work challenges systems that have been stable for generations and is forcing local programs to look at significant changes in the nature of practice. Systems are resistant to high-stakes change. One characteristic of healthy systems is that they look to maintain who they are and what they are, and to only change when there is a clear sense of need. This project acted like a catalyst for change. One concern was replicability because organizational change is time-intensive and costly.

Practitioners have a great deal to learn from researchers. One of the truisms about research is that if one has 1,000 children and is measuring change, finding statistically significant difference is easy. The issue for Head Start programs as they try to use outcome information is whether it is meaningful to this integrated system. Activities in the classroom reverberate all the way through decisions made by programs, at policy council or administrative level. These decisions translate into the nature and capacity of resources that teachers have to change individual children's lives.

The human enterprise is the application of values to the well-being of other people and, particularly, to the well-being of children. This integrated system starts at the center and is driven upwards by the well-being and benefit to children. That becomes a value-organizing principle of Head Start, a value worth coming back to when addressing the issue of becoming an outcome-driven organization. A lesson of sharing values is to ensure there was utility to the information produced.

Outcomes can become a common vocabulary to describe assets, needs, the meaning of change, and the business of mutual and supporting roles. Individual child progress is the driver here, and this is the Head Start mission and local program focus. All decisions had to be filtered back through that as an anchoring point. Head Starts have grown up as a system, with a variety of formal education and skill backgrounds. Choice and consent at the practitioner level have to be balanced with the organizational commitment to try to understand change. Teachers had to be brought to the table, not imposed on in terms of what outcomes change would look like.

Emphasis must move from accountability to quality improvement. Head Start has been driven by the issue of counting and meeting standards rather than looking at quality improvement at the child level. The Spokane program had already decided to focus on developmentally appropriate practice in their choice of assessment tools. They had made a significant investment to teacher observation rating systems, using the Creative Curriculum Child Observation Record on a split basis with the Deveraux Early Childhood Assessment as a second companion assessment tool. Developmentally appropriate assessment practices are young as tools. One issue is how to adopt value and live with the consequences associated with the choice of tools.

The utility of the information had to be defined. Management information systems (MIS) increase utility and on-demand access to information, aiding the issue of clear feedback and communication. This dynamic cycle never ends, and the process of finding information raises questions that then raise better questions. The program looked at system supports to teachers and the integration of assessment into routine practice. This process emphasized issues of expectation, models, tools, and accountability. Teachers came back with an explicit message that their work burden had to be reduced. MIS became a way to consolidate sources of information.

To foster a cycle of system change, a permanent planning development group was created with representation across all levels of the Head Start staff, leading from planning actions into

teacher-development actions. The intervention was organized using Bronfenbrenner's concepts in a series of monitoring, planning, and development decisions in the familiar language for Head Start programs. Like most Head Starts, the Spokane program invested in initial training. As teachers have moved in and out, they have been brought into a culture, rather than brought back through a massive continuing training process. It is not a realistic expectation for local programs to easily address this demand.

A clear and consistent program position on use of information must be communicated at all levels. Quality MIS matters. Teachers must be trained and coached on use of information, individual child planning, and adoption of curricula. Technology access and skills are not easy for local programs to address, but the utility of such systems in terms of creating feedback and leading to a common vocabulary justifies it.

Hallam: Project LINK is a classroom-focused intervention led by the University of Tennessee at Knoxville, the University of Kentucky, and the Head Start partner, the Community Action Council for Fayette, Nicholas, Harrison, and Bourbon Counties. The project aims to develop a direct assessment of children in the context of their daily routines in developmentally appropriate and naturalistic ways.

Early childhood assessment can be a dynamic process. The Head Start partner had been using standardized assessments several times a year, but they found this a static practice. The project's assumptions relative to child assessment influenced the development of the Project LINK model. Child-assessment practices should be respectful and appropriate for young children, designed to answer relevant questions about children, programs, and practice.

The assessment practices used with children in the classroom or program should inform instruction, lesson planning, and curriculum planning. The project utilizes windows of time for specific types of assessment activities, but the project works in partnership with teachers to understand that they assess children every day, and that assessment is always informing their practice. A series of activity-based assessments have been developed which embed the Assessment, Evaluation, and Programming System (AEPS) assessment tool, which is a curriculum-based measure with a criterion-referenced assessment tool that allows flexible administration.

Head Start teachers assess preschool children in small play-based groups. They use that information to develop individualized child plans, which are a requirement in Head Start performance standards. They use the data to develop group curriculum plans and then move on to a portfolio system where they track children's development in those areas over time.

Grisham-Brown: The teachers described assessment days three times a year or assessment weeks where children were pulled out for standardized assessments. Focus groups with teachers showed that this method disconnected with their instruction and with the Head Start outcomes framework. The 1st year of the project evaluated assessments, and it was decided to use the assessment and evaluation system (AEPS), which has been mostly used with young children who have disabilities.

AEPS had recently been revised with a number of items related to the mandated indicators of the Head Start outcomes framework, specifically in language, literacy, and numeracy. AEPS also has a birth-to-5-years component whereas at the time, some of the more commonly used curriculum-based assessments did not. Realizing that the project might be in classrooms where children were developmentally functioning below the age of 3 years, an assessment was needed with chronological ages of children.

While the assessment is not norm-referenced, it does provide developmental cutoffs. When data are reviewed in aggregate form, there is some way of judging children in relationship to other children. It has strong technical adequacy, which is important for accountability purposes. AEPS also can be administered in an authentic way, while engaged in activities of high interest to children. Every single item from AEPS is embedded into a set of seven small group activities that teachers performed as part of the daily schedule. At the conclusion of these assessment activities, teachers completed the assessment on each child. Teachers were also taught to use the assessment information to look at the classroom in an aggregate way to inform curriculum planning based on group needs of the children.

This method underscored for teachers that learning is integrated in nature, that one does not work on skills in isolation as was the practice using standardized assessment. Reading a book to a child affects literacy, language, fine motor skills, and dramatic play skills. Teachers began to see the linkages with curriculum development. AEPS also has different strands within developmental areas, educating teachers about developmental hierarchy of skills. Throughout this process, teachers are shown the linkages between what they are doing in the classroom and assessment.

Teachers were exposed to the Head Start Outcomes Framework and the congressionally mandated indicators in the areas of language, literacy, and numeracy. They then learned how to use that framework as part of their lesson planning process. They also learned how to use targeted portfolios to show a child's progress over time on these indicators. Assessment runs through all the components of the LINK system.

Wasik: The Johns Hopkins Language and Literacy Project collaborated with Baltimore City Head Start on this Child Outcomes Research Support Consortium (CORS) project. Baltimore has a high-poverty Head Start population run through delegate agencies, different centers, and different sites. All the teachers have been trained in the Creative Curriculum as part of the Baltimore City Head Start. The teachers have a clear foundation in the curriculum and also in the cc.net assessment. This project aimed to build on the foundation teachers already had, in terms of the assessment and curriculum, and to take them a step further to develop an assessment piece in alignment with what they were already doing in the classroom. This professional-development model relies on intensive weekly coaching of teachers. It is a theme-based curriculum with five components of literacy in which the teachers are trained in oral language, book reading, phonemic awareness, alphabet knowledge, and writing.

The main goal of the assessment developed was to provide teachers with information about children's abilities. The whole process was reflective in terms of what teachers were doing and seeing in the classroom, and how they could change what they were doing in the

curriculum. Baltimore City Head Start teachers use cc.net as their continuous progress assessment. The project goal was to include specific language and literacy items on the continuous progressive assessment to increase intensity. Teachers were also exposed to a self-assessment exercise to reflect on what they were doing themselves to provide language and literacy instruction.

The assessment was based on best practices in line with the curriculum being used. It was refined based on teacher feedback to make sure that the teachers understood it. For example, for child assessment, do children respond to open-ended questions with more than a one-word response? A large part of the curriculum trains teachers to ask open-ended questions with strategies to create dialogue between teachers and children. Teachers also were trained in phonemic awareness, such as segmenting the beginning sounds of words, and eliciting requests in which the children use complete sentences.

Teachers also were asked to assess their own practices. One of the major findings is that teachers often say they did not realize that they spoke so much. When asked to think about how they spoke and opportunities for students to talk, teachers were able to think about the way they delivered instruction. Another important question is what support is available so teachers can better assess children's development. Intensive professional development ensures that teachers understand why and how to administer the assessment. If teachers have conceptual knowledge of why they are doing what they are doing, they can include different components into the assessment to meet their own needs.

Teachers receive a significant amount of training once a week, with someone providing feedback, modeling for them, providing them with individualized implementation of the strategies. Videotaping commenced this year to give teachers feedback, which has been a powerful training tool.

It has been a challenge guiding teachers to provide opportunities for young children to develop oral language. It is difficult to script for teachers how to spontaneously create language and literacy opportunities in a classroom, and then think about ways to assess what was just learned from those opportunities. During translation of the assessment findings into practice, explicit suggestions are provided on how and why to make changes in the curriculum based on the assessment data. The trainers and coaches often are in the classroom and can provide information to the teachers in terms of what to do differently. Significant results have been seen in the project in terms of vocabulary development.

Carr: ACTing Squared—Active Curriculum Training and Accelerated Child Trajectories Project at the University of Cincinnati addressed instructional and caring contacts (ICCs), defined as interactions between the teacher and child. The way to affect change is to work with the teacher to make sure that he or she promotes learning in the classroom. The categories used for the instructional and caring context were defined by the research and the literature on good instructional practice. The project wanted to see what teachers were doing in specific content areas. The categories were intentional teaching, incidental teaching, and intentional instruction or direct instruction such as providing prompts. The project also looked at modeling, corrective feedback, conversation, and positive attention.

Once all of these behaviors were coded in the classroom, the teachers were given graphs with the outcomes of their interaction with the children. Some teachers had a long way to go when it came to instructing, speaking to, and working with children, so that their conversations, directives, or interactions were positive and instructional versus negative and demanding. The coders also looked at student engagement by scanning the room to see how many children were off-task. All of this information was given back to teachers in the form of graphs showing the collected baseline data and the overall instructional ICCs.

The next phase of teacher support was professional development. Teachers learned about corrective feedback and the other pertinent categories. The last phase provided teacher support. A senior researcher went out to talk to the teachers, showed them their graphs, and advised how to elevate their instruction. The ICC observation is an understanding of what is happening, and a set of norms has been created for the teachers to analyze where they lie compared to either the control group or the average level of an ICC in the classroom. It also identifies areas for teacher support, which results in better student outcomes and increased skill development.

The project also developed a series of curriculum-based measures, part of the system of assessment related to the Head Start outcomes that were not just based on observation. These short assessments give some information about academic skills and how children are engaged in the classroom. They can also be used for progress monitoring and are a standardized, scripted process. The assessments also had to be engaging for children. For example, a card game is used for the math assessment, and the assessor interacts with the child. The curriculum-based measures developed have been administered to over 260 children. The test–retest reliability is good to excellent, and internal consistency is good. It holds together as a battery of curriculum-based measures.