

Strengthening the Pathways to the Early Childhood Profession

ASSESSMENT INITIATIVE

Made possible by Indiana's Preschool Development Grant
Powered by Early Learning Indiana





NEED FOR ALTERNATIVE ASSESSMENT

Across Indiana and throughout the country, there is an insufficient supply of qualified early childhood educators – an essential ingredient to providing high-quality early childhood education (ECE). Demand for ECE educators in Indiana continues to grow, yet a talent gap threatens children’s access to high-quality early learning experiences.

According to the Early Learning Advisory Committee’s 2019 Annual Report, there are nearly 31,000 educators in Indiana’s ECE workforce.¹ With an annual staff turnover rate exceeding 30%, the ELAC Report projects a shortfall of more than 9,000 child care workers and preschool teachers within a decade. The Indiana Department of Education similarly identified early childhood education as an area of teacher shortage for the 2019-20 school year. This shortfall is amplified by the relative lack of experience of the ECE workforce. Forty-seven percent of the early learning workforce has one year of related experience or less.²

This novice and ever-changing workforce impacts both the quality and accessibility of ECE teaching and learning. There is strong evidence to suggest that children’s experiences with positive and stimulating adult-child interactions contribute to their gains in language, literacy, mathematics and social skills.³ Additionally, a workforce shortage leads to increased emotional and physical distress on the remaining teaching staff⁴ and, ultimately, decreased productivity of the broader workforce due to unreliable child care.⁵

¹ Indiana Early Learning Advisory Committee. (2019). Annual Report.

² Ibid.

³ Yoshikawa, H., Weiland, C., Brooks-Gunn, J., Burchinal, M. R., Espinosa, L. M., Gormley, W. T., Ludwig, J., Magnuson, K. A., ... & Zaslow, M. J. (2013). Investing in our future: The evidence base on preschool education (Vol. 9). Society for Research in Child Development and Foundation for Child Development.

⁴

⁵ Early Learning Indiana. (2018). Lost opportunities: The impact of inadequate child care on Indiana’s workforce & economy.

In the face of this workforce challenge, states, higher education institutions and child care providers are implementing various strategies to attract, retain and upskill talent to address the shortage of qualified ECE providers. Through one such strategy, states are fostering the creation of innovative preparation pathways to augment the supply of teachers training in traditional preparation programs. A few of the models around the country designed to meet the growing demand for skilled ECE talent include:

Program	Description
Washington State's ECE Certificate Project ⁶	Washington State's ECE Certificate Project 6
Virginia's Early Childhood Registered Apprenticeship Program ⁷	Started in 2016, this program combines supervised on-the-job training with related instruction delivered at community colleges across the state. Courses are part of the Career Studies Certificate in Early Childhood, which articulates toward the early childhood certificate, an associate degree and ultimately towards a bachelor's degree in early childhood.
Philadelphia's ECE Apprenticeship Program ⁸	Created with the aim of providing long-term career pathways for incumbent ECE teachers with a CDA credential to earn an associate degree, this fully registered apprenticeship model includes access to academic support, on-the-job learning opportunities, individual coaching and incremental increases in wages. Teachers completing the program receive an associate degree, a certificate from the U.S. Department of Labor and a lead teacher certification from the State of Pennsylvania.

To facilitate these innovative models, states may establish common criteria to evaluate whether any given preparation model has prepared teachers in accordance with the requisite knowledge and skills required by the state's licensure or other requirements. A single competency-based assessment will ensure that all early childhood teachers, regardless of their educational path, are prepared to be effective ECE teachers.

⁶ Head Start Website: School Readiness: <https://eclkc.ohs.acf.hhs.gov/school-readiness/article/head-start-approach-school-readiness-overview>

⁷ Workman, Emily. (2019). Earning while learning with early educator apprenticeship programs. New America.

⁸ Community College of Philadelphia. (2018). A new apprenticeship in Philadelphia strengthens education for early learners.



PRESCHOOL DEVELOPMENT GRANT PROJECT BACKGROUND

As part of a 2019 Preschool Development Grant (PDG), Indiana's Office of Early Childhood and Out-of-School Learning of the Family and Social Services Administration engaged Early Learning Indiana (ELI) to establish an assessment of the essential early childhood skills represented by Indiana's Core Knowledge and Competencies for Early Childhood, School Age and Youth Professionals, second edition (CKCs).⁹ This assessment will be broadly available for ECE workforce preparation programs to leverage in establishing a professional development pathway for participating candidates.

In developing a competency-based assessment mapped to the CKCs, ELI took the following approach:

1. Leveraging best practice assessment design standards, created a test blueprint for the knowledge, skills and abilities that should be tested
2. In partnership with OECOSL and other stakeholders, designed a test model that is optimal for the content to be assessed and minimizes ongoing administrative costs
3. Developed the assessment using item types that provide candidates with a fair and equitable opportunity to demonstrate competence
4. Conducted field testing to validate the assessment using a beta version and ensured validity and reliability, and revised as necessary



⁹ Indiana Professional Development Network. (2016). Indiana core knowledge and competencies for early childhood, school-age and youth professionals



DEVELOPING THE ASSESSMENT VISION

After vetting a number of candidate firms in the summer of 2019, ELI enlisted Alpine Testing Solutions (Alpine) as a psychometric partner to help create the assessment. Alpine provides program and psychometric consultation, test development, and validation services. It has a prestigious reputation and is adept at understanding the combination of test development, psychometrics, policy and business issues. Alpine is a member of the Association of Test Publishers, the Institute for Credentialing Excellence and the International Test Commission.

Alpine was contracted to oversee the development of a valid and reliable assessment. It used nationally recognized best practice standards to identify the minimally qualified candidate (MQC), analyze job tasks, implement and review a job task survey, and lead item-writing workshops.

In the ECE field, a MQC has the required education and/or experience to lead an early childhood classroom. The candidate has the skills to manage a clean and safe environment and foster healthy, positive relationships with children, families and staff. The MQC is responsible for creating and implementing lesson plans while fostering learning environments that promote all aspects of the developing child.



The MQC should be able to perform the following tasks without assistance:

- Manage a classroom
- Implement effective behavior management strategies
- Create and implement a lesson plan for children with diverse needs
- Construct physical space, materials and the location of staff to create positive educational experiences
- Maintain a clean, sanitary and safe environment
- Adhere to all regulatory standards
- Communicate with family members regarding basic information
- Direct support staff to adhere to basic health and safety standards
- Establish a positive relationship with every child
- Adhere to an industry standard code of ethics
- Identify and access research sources to support classroom instructions

The MQC should be able to participate in the following tasks with substantial guidance, mentoring or instruction:

- Recognize atypical behavior in children
- Determine underlying causes of children's behavior and implement a plan
- Observe and assess children and use the findings to inform practice
- Modify practice to support children with diverse backgrounds
- Develop a partnership with family members
- Identify stressors and manage self-care
- Mentor support staff

The following tasks are beyond the knowledge, skills and abilities of the MQC (some MQCs may be able to perform the task, but it is not expected at this level):

- Manage a program
- Access resources and referrals and navigate systems to support child development
- Identify local, state and national organizations
- Align business programs with organizational goals

The following tasks are beyond the knowledge, skills and abilities of the MQC (some MQCs may be able to perform the task, but it is not expected at this level):

- Manage a program
- Access resources and referrals and navigate systems to support child development
- Identify local, state and national organizations
- Align business programs with organizational goals

Within each section, a series of job tasks (objectives) were identified through the content alignment process.



JOB TASK ANALYSIS AND SURVEY BLUEPRINT

Building upon this work, ELI collaborated with Alpine and external stakeholders to complete a job task analysis and design a corresponding survey blueprint. From the streamlined CKCs, practical job tasks were developed, ensuring that each was mapped to an action that ECE professionals take within their work in classrooms.

A job task analysis reviewed the criticality and frequency of each job task to identify its relative value and develop an item weight within the assessment. Jobs done more often and those with a greater risk of potentially catastrophic results if performed incorrectly received a higher weight. Completion of the job task analysis was a multi-step process, conducted first with subject matter experts (SMEs) and then as a statewide survey. A panel of seven SMEs outlined the essential tasks and knowledge of an early childhood educator. The panel completed a series of blueprint task analysis activities to create a work model expansion (WME) document, which identified the major tasks, sub-tasks, and supporting knowledge and skills that are critical for effective entry-level performance.

The panel then used the WME to craft measurable tasks/objectives that represent the domain, determine the cognitive level at which the candidate should operate when performing each objective, and establish any conditions or criteria that must be met when performing each objective. Through this process, the SMEs identified 27 tasks/objectives across five domains for early childhood educators. They also provided feedback on the initial weightings, the distribution of items on the exam for the identified domains and objectives.

Drawing on the work of the SMEs, Alpine distributed a statewide online survey to ECE professionals to collect additional input about the proposed domains, objectives and corresponding weightings for the ECE exam. More than 175 respondents completed the survey:

- 40% of respondents were adult educators or supervisors of teachers
- 52% identified as current practicing teachers
- 8% identified as other (which included education specialists and curriculum specialists, among others)

Responding to feedback from the survey results, Alpine adjusted the number of assessment items and increased emphasis on observation and assessment.

Finally, four of the original SMEs, along with one attendee from FSSA's Office of Early Childhood and Out of School Learning, reconvened. They compared results, discussed differences and reconciled their earlier weighting activity ratings with the survey ratings to provide a final recommendation for the ECE assessment blueprint.

The SME committee allowed for a deviation of plus or minus one item for all objectives as long as the exact number of items specified at the domain level was met. They expected that all items written for each objective would meet the cognitive complexity level specified in the final blueprint. They decided on 150 scored items and 15-20 unscored pretest items. All items would use a standard four-option multiple choice or five-option "select all that apply" for answer construction. The assessment was designed to take approximately three hours to complete.



EXPERT ENGAGEMENT IN ITEM WRITING

ELI contracted with SMEs to write assessment items consistent with the test blueprint for inclusion in the assessment. ELI recruited SMEs locally and nationally, ensuring that they represented diverse backgrounds from all program types. SMEs were required to:

- Identify as an expert in the field or a particular subject matter
- Understand Indiana's CKCs
- Have excellent written communication skills
- Be available and willing to meet tight project timelines
- Attend item development training and in-person meetings in Indianapolis to review items for the assessment

In addition to ELI staff, a team of 24 local and national experts traveled to Indianapolis to collaborate for a full week of developing and reviewing item content. See list of SMEs in table. SMEs first received a full day of training on writing assessment items from psychometricians from Alpine. SMEs wrote items based on their content expertise, and then a team of six to 12 SMEs reviewed each item to ensure clarity, accuracy and alignment to competency, as well as content and cognitive complexity.

Participants were:

Marisa Schlieber	Center for the Study of Child Care Employment, University of California Berkeley
Tikila Welch	Child Care Answers
Elizabeth Dobrow	Day Early Learning
Krystal Robinson	Indiana Department of Education
Kahlil Mwaafrika	Early Childhood Consultant
Danielle Capstick	Early Head Start, Early Learning Indiana
Allyson Zimmerman	FSSA, Office of Early Childhood & Out of School Learning
Nancy Ward	FSSA, Office of Early Childhood & Out of School Learning
Benjamin Planton	Graduate Student
Dianna Wallace	Indiana Association for the Education of Young Children
Hanan Osman	Indiana Association for the Education of Young Children
Penelope Friday	Indiana State Department of Health
Brandy James	IUPUI of Indianapolis
Karen Hansel	Little Giants Preschool
Melissa Sizemore	Little Giants Preschool
Sarah Summersett	Little Giants Preschool
Kerri Wortinger	Marion Community Schools Head Start
Brenda Fyfe	North American Reggio Emilia Alliance
Megan Pratt	Oregon State University
Audrey Hallmann	Play Works
Sara Schmitt	Purdue University
Chrisanne Gayl	Trust for Learning
Sarah Arnold	Waldorf Early Childhood Association
Elizabeth Crocker	WestEd



FINAL ASSESSMENT DEVELOPMENT

From the items created, Alpine's team of psychometricians finalized a working assessment of 200 questions. Of these, 150 will be scored, and the remaining 50 items will be alternated as practice items with each candidate viewing different sets of 10. This will allow for ongoing psychometric validity testing of potential future assessment items.

Alpine has agreed to a no-cost extension into 2020 to oversee the validity and reliability of the assessment through a field test of the completed assessment. The process for the field test is still being developed, however it will consist of a minimum of 50 teaching candidates from across the state. After the development of items and rubrics, Alpine recommends that ELI complete a pilot test of the new assessment in order to evaluate the statistical quality of the newly developed items. In support of this activity, Alpine will assemble a pilot assessment form. The number of items included on the pilot form will be determined in consultation with psychometric staff, although commonly a pilot form includes the number of items on an operational form, plus some additional number of items, when feasible.

Prior to the pilot test, the pilot form will be reviewed by SMEs to check the items before publishing and administration. This ensures that there is no cueing, when one item includes the answer to another item, and no overlap of content across the items on the form. For the form review, Alpine will train the SMEs, collect SME feedback, and facilitate any discussion needed to reconcile the feedback.

Moving Forward

Once all revisions are made following the pilot in the early part of 2020, ELI will coordinate with the Office of Early Childhood and Out-of-School Learning staff to establish appropriate channels for administering the assessment to participating programs.