

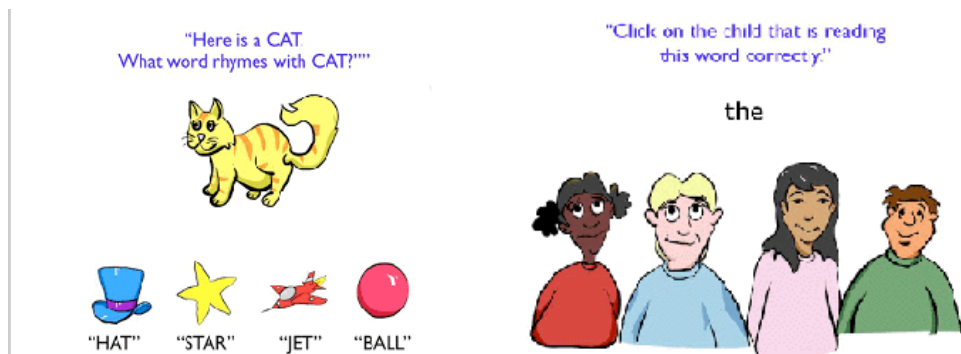
The Galanter Educational Evaluation Lattice (GEEL) Assessment Methodology

Children's Progress believes that there is no ordinary child. Every child has unique strengths and specific weaknesses that a teacher has to work with in order to help that child meet his or her full potential. Working with researchers at Columbia University and the Massachusetts Institute of Technology, Children's Progress has developed an Internet-based, adaptive, child-centered assessment—the Galanter Educational Evaluation Lattice (GEEL). The GEEL shows promise as a powerful, efficient, and comprehensive look at children's learning that examines the breadth and depth of a child's academic (language arts, mathematics, and foundational science) and non-academic (psychophysical, cognitive, social) development. Upon completion of the GEEL, teachers receive individualized narrative reports that identify the child's weaknesses and strengths across all the domains of the assessment. In addition, the teacher receives suggested activities and other recommendations that helps guide individual instruction. The teacher also receives a class report that identifies areas where the class as a whole may be having difficulties, and helps to drive curricular adjustment. The GEEL is designed to identify specific issues so that a teacher can immediately (and more wisely) direct education resources.

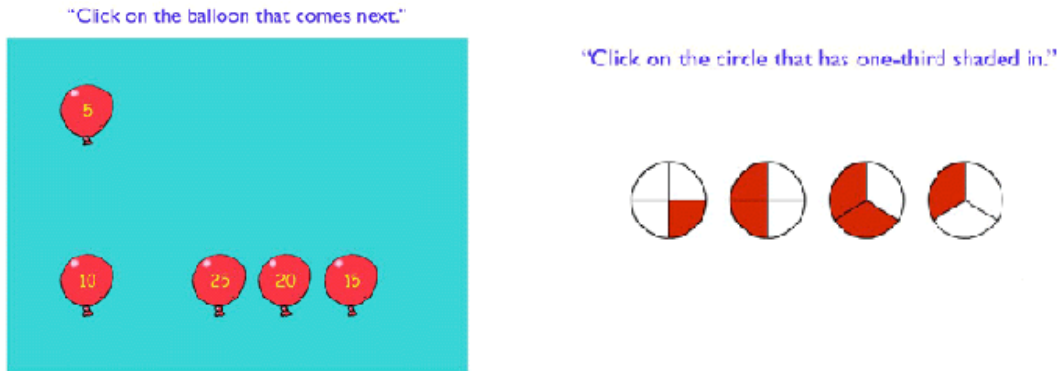
Assessment Domains

The GEEL assesses four major domains of child development: academic, psychophysical, cognitive, and social. Within these domains lie a slew of concepts and abilities that are fundamental to child development.

Within the academic domain, the GEEL examines language arts and mathematics. The language arts assessment examines concepts related to pre-reading and reading abilities (e.g., letter conception, phonemic awareness, spelling, reading comprehension, inference, among many others). The importance of these (and other) concepts has been identified by the National Reading Panel and the Department of Education as essential and central to emergent literacy and reading in general. The GEEL also examines concepts related to mathematics and covers the major domains identified by the National Council of Teachers of Mathematics (e.g., numbers and operations, patterns and algebra, geometry, measurement, probability). Below are sample screens developed by CPI.



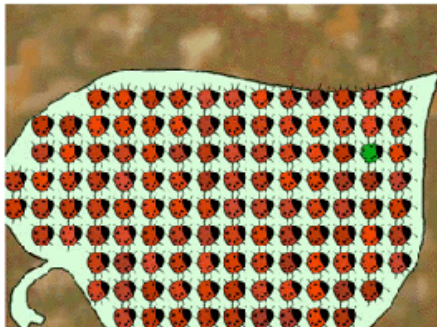
The two screen shots depicted above are examples of two evaluation scenarios within the language arts assessment. The left screen shot is an example of our “rhyming” scenario and the graphic on the right is an example of our “sight-reading” assessment.



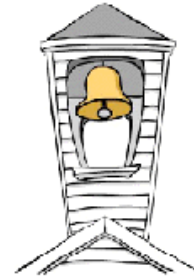
The two screen shots depicted above are examples of two evaluation scenarios within the mathematics assessment. The left screen shot is an example of our “correct order in counting” scenarios and the right graphic is an example of our “fractional representation” scenario.

The non-academic domains of the GEEL examine concepts and abilities related to the psychophysical development of the child. The GEEL screens for various visual problems including visual acuity, astigmatism, and color vision. (A patent for technology underlying the color vision screening has been applied for with Children’s Progress the sole licensee.) The GEEL uses a unique signal-to-noise paradigm for auditory screening that provides information about any potential hearing deficits, independent of the sound level settings of the child’s computer. Moreover, this procedure could identify a child who has difficulty hearing high frequency and/or low frequency sound across time—thus differentiating children with potential transient hearing losses from children with long-term deficits. Examples of these scenarios are shown below.

"Click on the ladybug that is different from the rest"



"Click on the bell when you hear it make a sound."



The two screen shots above are examples of some of the psychophysical assessments contained in the GEEL. The left screen depicts the "color vision" scenario and the right screen shot is an example of the "hearing" assessment.

Children's Progress is also developing and testing new assessment technologies in the areas of cognitive and social development. Currently, within the cognitive domain, innovative scenarios assess the child's fundamental skills in memory (e.g., ability to recall a list and/or repeat a sequence) and attention/vigilance (e.g., signal detection-like tasks involving noise-like interference and time delays). In addition, these cognitive assessments also identify children with lateral reversal tendencies (e.g., mistaking p/q, b/d).

Information regarding the child's social environment is provided to teachers and remains one of the most innovated technologies in the GEEL. Sociometric methods using Wille's structural models (1998) are currently being developed by CPI to examine the social network of a classroom and to identify children who may be "loners" or friendless. Moreover, currently CPI is researching effective ways to assess attitudes toward school and other children (e.g., learned helplessness, hostility, frustration, etc.). Below are some examples of the scenarios within the cognitive and social domains of the GEEL.

"Watch and listen to these frogs 'ribbit.'
Click on the frogs in the order that they ribbitted!"



"How GOOD do you think you are at
adding and subtracting numbers?"



Above are two examples from our cognitive and social assessment. The screen shot on the left depicts the "span of sequential memory" scenario and the graphic on the right is an example of the "self-perception of abilities" scenario.

Whereas the academic domain remains an important focal point of the GEEL, the innovative assessments in the non-academic domains makes the GEEL a unique and extremely useful tool for teachers, and ultimately for educational management.

Methodological Approach

CPI has patented a revolutionary new technology, called the Lattice, for child assessment. This adaptive assessment method is grounded in the research of Lev Vygotsky—a psychologist renowned for his work in child development. With every response emitted by the child, the Lattice alters the child’s path through the GEEL. Unlike a simple adaptive technology, if a child answers a specific question incorrectly, the technology poses a hint about the same question in a different form. The Lattice provides this hint to allow for in-depth assessment and evaluation. Data from the child’s path through the Lattice serves to instantly estimate the child’s acquisition of specific skills and pivotal concepts. For example, the assessment can identify a child who may have a reading difficulty, and determine if this problem is due to letter comprehension or phonemic misunderstanding (or something else altogether). On the other hand, if a child answers a specific question correctly, the Lattice moves the child forward to examine the acquisition of more complicated conceptual structures. CPI believes that it is simplistic to think of any child’s response to a question as simply right or wrong. Each specific response emitted by a child holds special significance about that child’s skills, and helps to inform and enrich the narrative report to the teacher. The patent site below has a depiction of the possible paths that a child can take through the Lattice.