



Framework of Early Years Evaluation – Pre-Reading

Introduction

The EYE-PR is a short, easy-to-administer assessment used to gauge students' status and growth in their pre-reading skills. It assesses four key pre-reading skills that predict a student's success in becoming a successful reader.¹ The assessment is the first part of a series of assessments that follow a three-phase approach to becoming a successful reader, consistent with the research framework by researchers Anne Castles, Kathleen Rastle, and Kate Nation.²

The pre-reading skills include:

- letter knowledge,
- sound-letter relationships,
- phonological awareness, and
- phonemic awareness.

When students master these prerequisite skills, they are motivated to learn subsequent reading skills and can learn them more easily.^{3,4}

¹ Scarborough, H. S. (2001). Connecting early language and literacy to later reading (dis)abilities: Evidence, theory, and practice. In S. Neuman & D. Dickinson (Eds.), *Handbook for research in early literacy*. Guilford Press.

² Castles, A., Rastle, K., & Nation, K. (2018). Ending the reading wars: Reading acquisition from novice to expert. *Psychological Science in the Public Interest*, 19, 5–51.

³ Tunmer, W.E., & Hoover, W.A. (2019) The cognitive foundations of learning to read: a framework for preventing and remediating reading difficulties, *Australian Journal of Learning Difficulties*, 24(1), 75-93.

⁴ Suggate, S. P. (2016). A meta-analysis of the long-term effects of phonemic awareness, phonics, fluency, and reading comprehension interventions. *Journal of Learning Disabilities*, 49(1), 77–96.

The EYE-PR complements the Early Years Evaluation – Teacher Assessment (*EYE-TA*). The EYE-TA assesses children’s skills in five domains, consistent with the frameworks established by UNICEF and the US National Reading Panel:^{5, 6, 7}

- awareness of self and environment
- cognitive skills
- language and communication skills
- social skills and approaches to learning
- physical development skills

Assessment Structure and Format

The EYE-PR is comprised of ten items, which are referred to as ‘Challenges.’ The first two challenges, Letter Knowledge and Sound-letter Relationships, present students with the 26 alphabet letters and require them to name the letters and say their sounds. For the remaining challenges, students listen to an assessor ask eight questions that require a short response. The assessor records the number of questions correctly answered for each challenge.

All challenges include a demonstration with three examples and an optional practice presentation.

Administration Procedures

The EYE-PR is administered directly, one-on-one, with an assessor sitting with a child using a computer or tablet. It requires about 20 minutes per child and can be administered by a classroom teacher or other educational professional. The assessor sitting with the child records the number of items answered correctly on a Scoring Sheet. The number of correct responses is immediately recorded in the application. The challenges are scored with a four-point rubric, following the approach recommended by Robert Marzano.⁸

⁵ Shepard, L., Kagan, S.L., & Wurtz, E. (1998). *Principles and recommendations for early childhood assessments*. Washington, DC: National Education Goals Panel.

⁶ National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). National Institute of Child Health & Development.

⁷ Ehri, L. C. (2005). Learning to read words: Theory, findings, and issues. *Scientific Studies of Reading*, 9(2), 167–188.

⁸ Marzano, R. J. (2010). *Formative assessment and standards-based grading*. Bloomington, IN: Marzano Research Laboratory.

A score of 3 indicates ‘mastery’ of a skill or learning objective. A score of 1 indicates that the skill is emerging or nonexistent, while a score of 2 indicates the student is learning the skill but has not yet mastered it. A score of 4 is reserved for performances that exceed expectations

Content Domains and Constructs

Letter Knowledge is the ability to automatically recognize and name lowercase and uppercase letters. This skill is one of the strongest predictors of later reading skills.⁹

The first challenge of the EYE-PR assesses letter knowledge. Students are presented with three slides of letters and asked to name the letters.

Sound-letter Relationships refer to the association between the sounds we hear in words (phonemes) and the letters or combinations of letters (graphemes) we see in print. These are also called phoneme-grapheme relationships or PGRs.^{10, 11}

Phonological Awareness is the ability to recognize and manipulate the phonological structures of spoken words. Two skills commonly associated with phonological awareness are blending syllables into words and segmenting words into their syllables.

The EYE-PR includes four challenges that assess phonological awareness. Two challenges assess the ability to blend syllables into words. The first requires students to blend the syllables of two- and three-syllable words to say the word. The second assesses the same skill using 'non-words.'

Children who learn to apply their phonological skills to non-words are more adept at learning to decode new words. They can manipulate sounds rather than rely on their memorized vocabulary.¹² Moreover, children's ability to manipulate the sounds and decode nonwords is associated with 'poor phonological skills,' one of the four major types of dyslexia.¹³

The EYE-PR uses children's names and places for nonwords. This has two advantages. It obviates the need to teach the concept of nonwords during an assessment and it enables students to become familiar with the names of newcomers that are not always easy to pronounce or remember.¹⁴

Phonemic Awareness is the ability to hear, identify, and manipulate the phonemes of spoken words.¹⁵ The skills include the ability to:

⁹ Piasta, S. B., & Wagner, R. K. (2010). Developing early literacy skills: A meta-analysis of alphabet learning and instruction. *Reading Research Quarterly, 45*(1), 8–38.

¹⁰ Ehri, L. C. (2005). Learning to read words: Theory, findings, and issues. *Scientific Studies of Reading, 9*(2), 167–188.

¹¹ Reading Rockets (June, 2023). *Phonological and phonemic awareness*. Retrieved June, 2023, from <https://www.readingrockets.org/teaching/reading-basics/phonemic>

¹² Hulme, C., Snowling, M. J., Caravolas, M., & Carroll, J. M. (2005). Phonological skills are (probably) one cause of success in learning to read: A meta-analytic review. *Journal of Experimental Child Psychology, 92*(1), 42-58.

¹³ McArthur, G., & Castles, A. (2017). Helping children with reading difficulties: Some things we have learned so far. *npj Science of Learning, 2*, 7.

¹⁴ Guthrie, J. T., & Wigfield, A. (2000). "Engagement and motivation in reading." In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of Reading Research* (Vol. 3, pp. 403-422). Lawrence Erlbaum Associates.

¹⁵ Ehri, L. C., Nunes, S. R., Willows, D. M., Schuster, B. V., Yaghoub-Zadeh, Z., & Shanahan, T. (2001). Phonemic awareness instruction helps children learn to read: Evidence from the National Reading Panel's meta-analysis. *Reading Research Quarterly, 36*(3), 250–287.

- blend phonemes into words,
- isolate the initial and final phonemes,
- segment words into phonemes,
- delete the first and last phonemes of a word, and
- replace the first phoneme of a word with a different phoneme.

The EYE-PR includes four challenges that assess phonemic awareness. The first challenge assesses students' ability to blend phonemes into words. The second assesses students' ability to isolate the initial phoneme from the rest of a word, commonly called the onsets and rimes of a word. The third and fourth challenges assess students' ability to delete a word's initial and final phonemes.

Distinguishing Features of the EYE-PR

A standardized approach to reducing bias. The concept 'equivalence' asks whether test scores obtained for different sub-populations can be interpreted similarly. When test scores are not equivalent across groups, comparisons of test scores can be biased.¹⁶

All assessments, from the informal assessments teachers use in their lessons to the formal tests used in provincial or state examinations, comprise 'assessment tasks.' An assessment task is a request for a student to respond in some way, which is evaluated. Bias is mitigated with the EYE-PR for each of the three elements of the assessment tasks:

Request:

The request is standardized with a carefully designed script that students hear online and delivered by a professional educator. All students receive the request in the same way, clearly and unambiguously stated. The requests follow a demonstration of the assessment task. The requests use words with an age-of-acquisition of age 6 or less based on a corpus of over 30,000 English words.

Performance:

Students' responses entail simple verbal responses.

Evaluation:

Classroom teachers evaluate students' responses, indicating with a simple 'correct' versus 'incorrect' response.

Attention and Motivation. The attention span of a typical five- or six-year-old student is about 15 to 20 minutes, depending on the child's interest in the task and level of physical activity.^{17, 18} The assessment tasks

¹⁶ van de Vijver, F. J. R., & Tanzer, N. K. (1997). Bias and equivalence in cross-cultural assessment: An overview. *European Review of Applied Psychology = Revue Européenne de psychologie appliquée*, 47(4), 263-280.

¹⁷ Berger, K. S. (2022). *The developing person through childhood and adolescence* (12th ed.). Worth Publishers.

¹⁸ Posner, M. I., & Rothbart, M. K. (2007). *Attention in early development: Themes and variations*. Oxford University Press.

of Challenges 3 and 5 use animal names, Challenge 8 is about body parts, Challenge 9 is articles of clothing, and Challenge 10 is about weather and climate. Challenge 7 includes action words such as swim, hop, and hug. Students are invited to stand up and demonstrate the action after they have blended the phonemes of the action words. The EYE-PR can be administered in two sessions for students who cannot complete it in one session.

Summary

The *EYE-PR* is a reliable, valid assessment consistent with the technical, legal, financial, and political considerations of most states and provinces.¹⁹ The EYE-PR data can be aggregated and reported at the school, district, state, and provincial levels. The short assessment time, the considerations regarding student motivation, and the immediate, helpful child and classroom reports supports meaningful engagement in the assessment process for teachers.

¹⁹ Morales, E. S., & Lindberg, C. (2017). Tracking progress on policy coherence for sustainable development at the national level: What and how to measure. *Coherence for Sustainable Development*, 9, 1-11.