How To: Measure Letter Knowledge With CBM: Letter Name Fluency (LNF) & Letter Sound Fluency (LSF)

Teachers have always known that letter knowledge is a pre-requisite to the acquisition of reading skills. Before students can decode text, they must be fluent in recognizing both letters and their sounds. And recent research confirms that children's ability in primary grades to identify letter names and sounds is a strong predictor of reading readiness and future reading success (Ritchey & Speece, 2006).

Efficient, curriculum-based assessments to track student performance and growth in letter knowledge are Letter Name Fluency (LNF) and Letter Sound Fluency (LSF). In each assessment, the teacher administers timed 1-minute fluency probes (assessments) to children and compares the results to research norms to determine whether students are under-performing and therefore at risk for future academic problems. These two measures are time-efficient and the perfect means to track a student's progress in letter-skills instruction or intervention.

CBM-Letter Name Fluency/Letter Sound Fluency: How to Access Resources. Teachers seeking to screen their students in foundation letter-knowledge skills can obtain these free CBM-LNF/LSF assessment resources: (1) materials for assessment, (2) guidelines for administration and scoring, and (3) research-based norms.

- *Materials for assessment.* Schools can create free mixed-case random-letter lists by accessing the Letter Fluency Generator, an online application:
  http://www.interventioncentral.org/teacher-resources/letter-name-fluency-generator

- *Guidelines for administration and scoring.* Instructions for preparing, administering, and scoring CBM-Letter Name Fluency/Letter Sound Fluency assessments appear later in this document:

- *Research-based norms.* Two tables, *Curriculum Curriculum-Based Measurement: Letter Name Fluency (LNF)* and *Curriculum-Based Measurement: Letter Sound Fluency (LSF),* are included in this document. The norms include fluency benchmarks and growth norms for grades K-2 (EasyCBM, 2010).

References

Ritchey, K. D., & Speece, D. L. (2006). From letter names to word reading: The nascent role of sublexical fluency. *Contemporary Educational Psychology, 31*, 301-327.

Curriculum-Based Measurement-Letter Name Fluency (LNF)/Letter Sound Fluency (LSF): Guidelines for Use

CBM-LNF/LSF: Description

In the CBM-Letter Name Fluency (LNF) task, the student is given a random list of upper- and lower-case letters and has 1 minute to identify the names of as many letters as possible.

In the CBM-Letter Sound Fluency (LSF) task, the student is given a random list of upper- and lower-case letters and has 1 minute to identify as many letter sounds as possible.

Directions for Letter Name Fluency: LNF

CBM-Letter Name Fluency: Materials
The following materials are needed to administer CBM-LNF probes:
- Student and examiner copies of random list of upper- and lower-case letters
- Stopwatch

CBM-Letter Name Fluency: Preparation
Schools can create free mixed-case random-letter lists by accessing the Letter Fluency Generator, an online application:
http://www.interventioncentral.org/teacher-resources/letter-name-fluency-generator

CBM-Letter Name Fluency: Directions for Administration (adapted from Hosp, Hosp, & Howell, 2007; Ritchey & Speece, 2006)

1. The examiner sits at a table with the student and gives the student a copy of the randomized letter list.
2. The examiner says: "This list contains letters in mixed-up order. When I say 'begin', read the name of each letter aloud, starting from here [the examiner points to the top left of the page]. Read each letter as I point to it. Try your best and keep reading until I tell you to stop."
3. The examiner says: "Begin", starts the stop-watch, and points to the first letter.
4. As the student reads a letter correctly, the examiner immediately points to the next letter. If the student misreads a letter or hesitates for 3 seconds or longer, the examiner points to the next letter. The examiner does not correct student mistakes or provide the correct letter when the student hesitates.
5. At the end of 1 minute, the examiner stops the stop-watch, says: "Stop", and collects and scores the student letter list.
6. *Initial Assessment:* If the examiner is assessing the student for the first time, the examiner administers a total of 3 letter lists during the session using the above procedures and takes the median (middle) score as the best estimate of the student's letter naming speed.
   Progress-Monitoring: If the examiner is monitoring student growth in letter-naming (and has previously collected LNF data), only one letter list is given in the session.

CBM-Letter Name Fluency: Practice

If the student is not yet familiar with the LNF task, the teacher can administer one or more practice LNF probes (using the administration guidelines above) and provide coaching and feedback as needed until assured that the student fully understands the assessment.

CBM-Letter Name Fluency: Scoring Guidelines

The examiner adds up the total number of correct responses, giving the student credit for each correct letter name. The student does not receive credit for letter sounds or for giving correct letter-name responses after hesitations of 3 seconds or longer.

Directions for Letter Sound Fluency: LSF

CBM-Letter Sound Fluency: Materials
The following materials are needed to administer CBM-LSF probes:
- Student and examiner copies of random list of lower-case letters
- Stopwatch

CBM-Letter Sound Fluency: Preparation
Schools can create free lower-case random-letter lists by accessing the Letter Fluency Generator, an online application:
http://www.interventioncentral.org/teacher-resources/letter-name-fluency-generator

CBM-Letter Sound Fluency: Directions for Administration (adapted from Fuchs & Fuchs, n.d.; Hosp, Hosp, & Howell, 2007; Ritchey & Speece, 2006)

1. The examiner sits at a table with the student and gives the student a copy of the randomized letter list.
2. The examiner says: "This list contains letters in mixed-up order. When I say 'begin', say the sound of each letter aloud, starting from here [the examiner points to the top left of the page]. Give the sound of each letter as I point to it. Try your best and keep going until I tell you to stop.
3. The examiner says: "Begin", starts the stop-watch, and points to the first letter.
4. As the student gives a correct letter sound, the examiner immediately points to the next letter. If the student gives an incorrect letter sound or hesitates for 3 seconds or longer, the examiner points to the next letter. The examiner does not correct student mistakes or provide the correct letter sound when the student hesitates.
5. At the end of 1 minute, the examiner stops the stop-watch, says: "Stop", and collects and scores the student letter list.
6. *Initial Assessment:* If the examiner is assessing the student for the first time, the examiner administers a total of 3 letter lists using the above procedures and takes the median (middle) score as the best estimate of the student's letter sound fluency.
   Progress-Monitoring: If the examiner is monitoring student growth in letter-sound fluency (and has previously collected LSF data), only one letter list is given.

CBM-Letter Sound Fluency: Practice

If the student is not yet familiar with the LSF task, the teacher can administer one or more practice LSF probes (using the administration guidelines above) and provide coaching and feedback as needed until assured that the student fully understands the assessment.

CBM-Letter Sound Fluency: Scoring Guidelines

The examiner adds up the total number of correct responses, giving the student credit for each correct letter sound. Both hard and soft sounds for 'c' and 'g' are acceptable. Only the short version of vowel sounds are acceptable (Fuchs & Fuchs, n.d.).

References

Fuchs, L. S., & Fuchs, D. (n.d.). Using *CBM for progress monitoring*. National Center of Student Progress Monitoring. Retrieved from http://www.studentprogress.org/

Hosp, M. K., Hosp, J. L., & Howell, K. W. (2007). *The ABC's of CBM: A practical guide to curriculum-based measurement*. New York: Guilford Press.

Ritchey, K. D., & Speece, D. L. (2006). From letter names to word reading: The nascent role of sublexical fluency. *Contemporary Educational Psychology, 31*, 301-327.

Curriculum-Based Measurement: Letter Name Fluency (LNF) Norms
(EasyCBM, 2010)*

In the **CBM-Letter Name Fluency (LNF)** task, the student is given a random list of upper- and lower-case letters and has 1 minute to identify the names of as many letters as possible.

Grade	Percentile	Fall LNF (EasyCBM, 2010)	Winter LNF (EasyCBM, 2010)	Spring LNF (EasyCBM, 2010)	Weekly Growth (Calculated across 32 Instructional Wks)
K	50%ile	12	35	45	1.00
	20%ile	4	22	36	1.00
	10%ile	2	13	29	0.84
1	50%ile	40	56	68	0.88
	20%ile	28	42	49	0.66
	10%ile	20	34	42	0.69

Curriculum-Based Measurement: Letter Sound Fluency (LSF) Norms
(EasyCBM, 2010)*

In the **CBM-Letter Sound Fluency (LSF)** task, the student is given a random list of upper- and lower-case letters and has 1 minute to identify as many letter sounds as possible.

Grade	Percentile	Fall LSF (EasyCBM, 2010)	Winter LSF (EasyCBM, 2010)	Spring LSF (EasyCBM, 2010)	Weekly Growth
K	50%ile	2	18	34	1.00
	20%ile	1	8	23	0.69
	10%ile	0	4	18	0.56
1	50%ile	26	39	46	0.62
	20%ile	15	30	36	0.66
	10%ile	10	26	30	0.62

References:
- EasyCBM. (2010). *Interpreting the easyCBM progress monitoring test results.* Author. Retrieved from http://www.easycbm.com/static/files/pdfs/info/ProgMonScoreInterpretation.pdf

* Reported Characteristics of Student Sample(s) Used to Compile These Norms:
- **EasyCBM, 2010:** *Number of Students Assessed.* About 2000 students assessed for both LSF and LNF (EasyCBM, 2010; p.1)/*Geographical Location:* Washington & Oregon/ *Socioeconomic Status:* Not reported / *Ethnicity of Sample:* Not reported/*Limited English Proficiency in Sample:* Not reported.

Where to Find Materials: Schools can create free random-letter lists by accessing the Letter Fluency Generator, an online

application: *http://www.interventioncentral.org/teacher-resources/letter-name-fluency-generator*