

# Technical Report

---

## *DIBELS and DORA: A comparison study*

December 2005

Revised March 2007



---

***DIBELS and DORA:  
A comparison study***

**Table of Contents**

Introduction..... 3  
Comparison of Theoretical Orientation..... 4  
Comparison of Purpose.....5  
Comparison of Technical Specifications..... 6  
Summary of Similarities and Differences..... 10  
Conclusion..... 11  
References.....12

---

## Introduction

With the passage of the No Child Left Behind (NCLB) Act requiring local educational agencies to provide assessment data as evidence of students' mastery of foundation skills in various disciplines (such as reading, writing, and mathematics), states, districts, and schools have been seeking cost-effective, efficient, valid, reliable, and diagnostic assessment tools. Publishers and test makers have been creating new assessments or rebranding traditional ones in hopes of satisfying the educational community's need for specific testing materials. As a result, many assessment programs have recently hit the market while school administrators and teachers evaluate which measures meet the specific needs of their schools.

One assessment becoming widely used across the nation in many states as their summative reading assessment is the Dynamic Indicator of Basic Early Literacy Skills (DIBELS) produced out of the University of Oregon. The DIBELS has gained popular demand because of its low cost, well-studied approach and its screening abilities. However, despite clear statements by the DIBELS authors about its screening purpose, advantages, *and* limitations, misconceptions about the DIBELS program relative to other diagnostic assessments have arisen. Many schools have inadvertently overlooked other assessment tools appropriate for their schools because of these misconceptions. The purpose of this report is to help clarify misconceptions and to demonstrate that Let's Go Learn's DORA provides a more complete and formative profile of students' reading abilities.

---

## Comparison of Theoretical Orientation

The foundation of quality assessment products rests on their theoretical orientation. In education, this is the model of the learning or thinking process which guides the development of test items. In the late 1980s and early 1990s, much research was performed about the relationship between children's phonological awareness (ability to identify sounds within words) and their future reading proficiency. Research showed that the better a person's phonological awareness as a young child, the better his or her chances of becoming a proficient reader.

The school psychology community has spearheaded the development and use of instruments to identify a child's phonological awareness and ability to manipulate phonemes to help educators ascertain which students may be at risk for reading failure. Traditional tests have included the Jerome Rosner's Test of Auditory Analysis Skills (TAAS), the Yopp-Singer Test of Phonemic Segmentation, and the Comprehensive Test of Phonological Processing (CTOPP). All these assessments primarily identify young children (in grades K-3) who have poor phonemic or phonological awareness so teachers can provide early intervention in phonological processing. The DIBELS assessment is similar to these traditional phonological tests in that it rests its theoretical orientation on identifying students with poor phonological awareness. Some reading researchers believe that children's ability to identify and manipulate sounds within words in English is important in quickly learning the alphabetic principle and the English phonetic code so that they can effortlessly identify words, freeing up cognitive energy to make meaning of text.

Unlike the DIBELS, which is guided by the idea of identifying children with poor phonological awareness as the key to reading remediation, Let's Go Learn's Diagnostic Assessment of Reading (DORA) was developed with the notion that each child reads differently and possesses a different set of reading strategies as he or she attends to cues. According to some reading researchers, children (and adults) attend to three general cues as they read. These cues are 1) graphophonic (letter and sound cues which include phonological awareness), 2) semantic (meaning-based cues), and 3) syntactic (language structure cues). By administering a battery of reading measures, Let's Go Learn's DORA takes a child's performance on each of the measures in DORA and extrapolates a profile of the strategies the child uses as he or she attends to graphophonic, semantic, or syntactic cues. Because, like the DIBELS, DORA provides both a qualitative and quantitative profile of each child's reading abilities, many schools often use DORA to identify children who need intensive remediation. However, because DORA focuses its theoretical approach on the child's reading strategies as a holistic and cognitive process, unlike the DIBELS, DORA is diagnostic, inherently prescriptive, broader in its usability (both in terms of age range of students and in terms of its function), and more clearly based on a particular model of the reading process.

---

## Comparison of Purpose

Related to the notion of theoretical orientation is the practical purpose for which each assessment measure was designed. For example, informal reading inventories like the popular Qualitative Reading Inventory (Leslie & Caldwell, 2005) are used by many schools to inform teachers of the oral reading and comprehension levels of their students. For other teachers, such inventories provide them with information about the kinds of strategies their students use when they encounter text. Phonics tests like the Basic Phonics Skills Test (BPST) alert teachers to a student's knowledge of letter patterns and their corresponding sounds. According to its authors, the DIBELS consists of "a set of standardized, individually administered measures of early literacy development....[which] assess student development of phonological awareness, alphabetic understanding, and automaticity and fluency with code" (Dibels.uoregon.edu). According to Hintze, et al (2003) and Kaminiski & Good (1996), The DIBELS is a set of pre-reading measures designed for kindergarten and first-grade students in order to 1) identify students who might be at risk for reading failure, 2) identify children who need additional phonological skills instruction, 3) evaluate the effectiveness of phonological skills instruction, and 4) determine the extent to which a child has developed enough phonological skills to indicate that he or she is no longer at risk for reading failure. From the authors' description of DIBELS, it is apparent that DIBELS targets emergent readers with the primary purpose of testing phonological skills as a predictor of reading achievement or failure.

Relative to the DIBELS, LGL's DORA was not designed with only emergent readers in mind, nor was it designed primarily to test phonological skills. While DORA and the DIBELS both help identify struggling readers for instructional remediation, DORA's purpose is multifold. Because DORA is a set of leveled reading measures containing eight subtests--1) Phonemic Awareness, 2) High-Frequency Words, 3) Level Word Recognition, 4) Phonics, 5) Vocabulary, 6) Spelling, 7) Silent Reading Comprehension, and 8) Oral Reading Fluency--DORA takes advantage of the information gained from the results of these assessments to generate a qualitative and quantitative report detailing individual children's reading strategies. These reports are used to help provide information about children's reading progress, students' placement in ability groups, and instructional recommendations that work with the child's current reading strategies to accelerate reading development. In addition, unlike the DIBELS, DORA focuses on characterizing students' reading strategies over a wide range of ages, targeting students grades K-12.

While the DIBELS provides teachers with very important information about children's phonological awareness to help identify children at risk for reading failure, its purpose is not to dissect and interpret children's overall reading abilities and skills. It was not designed as a diagnostic measure. LGL's DORA, on the other hand, was designed as a diagnostic measure. As such, it targets students of all ages as it assesses multiple reading skills.

---

## Comparison of Technical Specifications

The DIBELS assesses students in three domains: 1) Phonological Awareness, 2) Alphabetic Principle, and 3) Fluency. According to the creators of the DIBELS, all measures have been found to be predictive of reading proficiency. The three domains contain the following measures (description quoted from the DIBELS website at [www.dibels.uoregon.edu](http://www.dibels.uoregon.edu)):

### *Measures of Phonological Awareness:*

Initial Sounds Fluency (ISF): Assesses a child's skill in identifying and producing the initial sound of a given word.

Phonemic Segmentation Fluency (PSF): Assesses a child's skill in producing the individual sounds within a given word.

### *Measure of Alphabetic Principle:*

Nonsense Word Fluency (NWF): Assesses children's knowledge of letter-sound correspondences as well their ability to blend letters together to form unfamiliar "nonsense" (e.g., fik, lig, etc.) words.

### *Measure of Fluency with Connected Text:*

Oral Reading Fluency (ORF): Assesses a child's skill in reading connected text in grade-level material.

The focus of all the DIBELS measures is word identification and children's proficiency in identifying words and sounds out of context (phonological awareness and alphabetic principle measures) and in the context of a story (oral reading fluency measure). Two key domains which the DIBELS does not measure are Vocabulary and Comprehension.

Let's Go Learn's DORA assesses students using eight subtests to ascertain how students read on a graphophonic, semantic, and syntactic level. The eight subtests include the following:

High-Frequency Word Subtest: This subtest assesses children's ability to automatically recognize words which have been identified as frequently occurring in books, newspapers, and other forms of text. This subtest uses Fry's 300 sight words as test items which have been broken down into three general levels of difficulty.

Phonemic Awareness: This subtest assesses children's ability to manipulate discrete sounds within words. In this assessment, children are presented with a number of audio & picture-only items and asked to manipulate the sounds in these items to produce a new

---

word. Specific phonemic awareness categories tested include 1) addition, 2) deletion, 3) substitution, 4) identification, 5) categorization, 6) blending, 7) segmenting, 8) isolation, and 9) rhyming.

Phonics: This subtest assesses a child’s ability to recognize basic English phonetic principles. These phonetic principles include: 1) beginning sounds, 2) short vowel sounds, 3) blends, 4) the silent E rule, 5) consonant digraphs, 6) vowel digraphs, 7) r-controlled vowels, 8) diphthongs, and 9) syllabification. Real and nonsense words are employed.

Word Recognition: This subtest assesses a child’s ability to recognize leveled lists of words. In this subtest, children are continually presented with a number of increasingly difficult words until they reach a level when they “frustrate” or stop recognizing the words presented to them. The final outcome of the assessment gives teachers an idea of the grade-level ability of a child to recognize words out of context.

Vocabulary: This subtest assesses a child’s understanding of words. In this subtest, children are asked to select the picture which correctly corresponds to a word they hear. The program continues to present children with increasingly difficult words until they make a number of errors. It provides information on a child’s level of oral vocabulary.

Spelling: This subtest measures a child’s conventional spelling ability. The program invites children to correctly spell a series of words that become increasingly difficult. The program stops administering words when a child consistently spells words incorrectly. It provides teachers with information about a child’s spelling level.

Silent Reading Comprehension: In this subtest, children silently read passages of increasing difficulty and answer six questions about a passage immediately after they read it. The questions for each passage are broken up into three inferential questions and three factual questions. The program stops administering passages and questions once a student misses a certain number of questions on a passage. It provides teachers with information about a child’s comprehension level.

Fluency: In this subtest, children read aloud to teachers short leveled passages of increasing syntactic complexity. Teachers time children’s reading of these passages and record their errors and prosody (voice inflection, articulation and versification) according to a pre-established rubric. Teachers enter children’s raw reading time, number of errors, and prosody scores into a web interface. DORA calculates children’s reading rate and automatically incorporates the inputted scores into the Let’s Go Learn’s online score management system.

Unlike the DIBELS, DORA assesses children in all five reading areas defined by the National Reading Panel, the Center for the Improvement of Early Reading Achievement (CIERA), and the National Institute for Literacy (NIFL). These areas are 1) Phonemic Awareness, 2) Phonics, 3) Vocabulary, 4) Text Comprehension, and 5) Fluency (CIERA, 2000).

---

### *Administration*

The DIBELS is administered one-on-one by teachers. Teachers who want reports on their students' reading scores input the test data into the DIBELS' data system on line. The online data system takes the scores and processes a report for teachers which highlights each child's rank on each of the measures. To collect school-wide data on students, the DIBELS test administrators must be trained before administering and/or scoring the DIBELS.

Unlike the DIBELS, LGL's DORA is administered almost exclusively on the computer. The only measure administered by teachers is the Fluency subtest. Raw scores from the fluency subtest are entered into the teacher's online data management system, which is then processed to produce a set of fluency results. Because DORA is administered on line, a whole classroom of students can be assessed in one or two trips to the school's computer lab. After a child completes an assessment, teachers can immediately retrieve a report which details a child's profile in a quantitative and qualitative fashion and provides teachers with important instructional recommendations specific to that child's profile.

There are multiple components of a teacher's report on a child's reading assessment. The first section includes a quantitative summary of a child's performance on each of the subtests. In this section of the report, areas of low performance are flagged to make teachers aware that that particular reading skill is of high priority to that particular child. The next section of the report includes a qualitative summary of the child's reading profile which is broken up into three sections: 1) Graphophonic Strategies, 2) Semantic and Syntactic Strategies, and 3) Overall Summary. The graphophonic section characterizes a child's attention to letter and sound cues in words. This includes his or her ability to recognize words by sight, application of phonics principles, and ability to distinguish sounds within words. The semantic and syntactic section analyzes the child's ability to attend to meaning and language-based cues. The overall summary explains the child's strengths and weaknesses in utilizing all three cues--graphophonic, semantic and syntactic strategies--to decode and make sense of what he or she reads. Each section uses evidence from the subtests listed above to qualify the profile made of the student's reading abilities, including scores and, where appropriate, a description of the child's errors relative to the target item.

The third section of the report is a summary of different kinds of instructional strategies in the three domains--graphophonic, semantic and syntactic--that would best accelerate the child's reading development. The instructional strategies draw from the child's successes and known abilities in order to help build the areas of weakness as identified by DORA. The last section of the report provides other detailed instructional strategies and tips in teaching reading that would be helpful to all students in the classroom. DORA provides teachers with a detailed list of the various concepts in numeracy, measurement, and math facts that children have mastered.

### *Validity and Reliability*

---

Different kinds of validity and reliability studies have been performed using the DIBELS. Results of these assessments have produced promising results about the DIBELS's predictive abilities. However, a concurrent validity study first published on the DIBELS website concluded that while DIBELS shows a high degree of correlation to other widely-used phonological awareness measures like the CTOPP, it has also shown some errors in its predictive abilities. According to Hintze et al (2003), “[U]se of those (ISF and PSF) DIBELS measures and cut-scores also resulted in the identification of many children as having difficulties who *did not* perform poorly on the CTOPP (i.e., false positives). From a practical standpoint, then, using the DIBELS and these cut-scores could lead to school districts unnecessarily allocating resources to children being inaccurately identified as ‘at-risk’ for early reading problems. However, when the DIBELS are truly used as screening measures, whereby identified children are provided further, more detailed assessment, the likelihood of a costly mistake appears small....” Collectively, the results of this study suggest that the DIBELS “benchmark” or cut-scores may be set too high, from a diagnostic accuracy point of view. As a result, use of the DIBELS as a classification tool in practice should be undertaken with caution. When the DIBELS are used district-wide to classify children as in need of early intervention services, the potential for costly mistakes (i.e., large numbers of false positives = high costs) suggests further research on benchmark or cut-scores is warranted.

While Let’s Go Learn’s validity and reliability studies on DORA have not been as extensive as those on the DIBELS, concurrent validity studies of LGL’s DORA have shown a high degree of correlation between DORA and such widely used, nationally norm-referenced assessments as the Slosson Oral Reading Test (SORT), the Gray Oral Reading Test (GORT), and the Woodcock Word Attack Test and Word Identification Test. Additionally, a high degree of correlation has been established between DORA and informal reading inventories such as the Diagnostic Assessment of Reading (DAR) and the Qualitative Reading Inventory (QRI). Test and retest studies of LGL’s assessment showed a low degree of variability together with a high degree of precision, which indicates that DORA can be administered several times during the year without worry of test practice interference. According to Hintze et al (2003), as quoted above, the likelihood of a screening mistake by the DIBELS would be mitigated by follow-up with more detailed assessments like LGL’s DORA.

---

## Summary of Similarities and Differences

### *Ideological*

Both DORA and the DIBELS, on an ideological level, seek to provide teachers with an assessment instrument that will ultimately lead to proficient reading ability in children. To this end, DORA and the DIBELS offer teachers research-based, valid, and reliable assessment products which help identify children who need reading remediation. Furthermore, both assessment measures help teachers, in different ways, inform their teaching practices to provide the most effective reading instruction for struggling readers.

Despite their similarities, however, DORA and the DIBELS also pose differences in their approaches to assessing reading. The authors of the DIBELS base their assessment on the relationship between early proficiency in word identification and later reading success. As such, their assessment was designed to target young children for intervention in word identification skills such as phonemic awareness, phonics, or oral reading fluency. While there is research to suggest a correlation between early competence in these phonological skills and later reading proficiency, there is much more to the reading process that equally affects children's acquisition of reading skills. Furthermore, the DIBELS' focus on early literacy research does not address the needs of students with poor reading skills past the early literacy stage. One issue with early literacy measures like the DIBELS is that they do not and cannot offer a way to diagnose or provide remediation to students in the upper grades, as those measures were not designed with older students in mind.

Let's Go Learn's approach to reading assessment does not focus primarily on early literacy screening. Its approach rests on the idea that the reading process is a cognitive and personal one which is affected by a number of factors. These factors include affective ones in addition to the child's cognitive ability to attend to various reading cues. Because children possess different experiences with text, LGL's DORA focuses on identifying the individual ways children of all ages access text and diagnosing the best ways to instruct them given their profiles.

### *Technical*

The two main differences in the technical specifications of the DIBELS and DORA arise from differences in theoretical orientation and purpose. One difference is in the content of the assessments. While the DIBELS only contains four measures, with items all children receive, DORA has a set of eight measures which target the instructional level of the student by adjusting the difficulty or ease of the items according to the child's frustration level. Furthermore, after students complete an assessment, the DIBELS data system produces a report which details a student's developmental level in particular measures and recommends a level of remediation. While DORA also provides information about each student's instructional level on each measure, a key feature of the report is the qualitative narrative which describes the student's individual reading profile and provides specific instructional recommendations that speak to his or her strengths and weaknesses. The other main difference in the technical aspects of the DIBELS and

---

DORA is the nature of the administration. While the DIBELS is administered by a trained teacher, completely one-on-one, with the option of entering assessment scores into an online data system, DORA is administered and scored online, allowing teachers to assess whole classrooms of students in one or two sessions in the computer lab.

## Conclusion

With the many different kinds of assessments available to educators and with the need to provide assessment results to parents, districts, and federal and state agencies, educators are faced with the difficult task of choosing the appropriate assessment(s) to provide the greatest benefit for all students. Regardless of the reading assessment measures ultimately chosen to administer to children, educators should be aware of a number of key features of the assessment:

1. Theoretical orientation. What pedagogical principles have guided the development of the assessment?
2. Purpose. How is information produced by the assessment aligned to the needs of students and the goals and resources of the school?
3. Content. What information does the assessment seek to attain and how is the information analyzed and reported? Is the breadth of the assessment comprehensive enough to provide sufficient information?
4. Age-appropriateness. Is the assessment appropriate for all the students it intends to target?
5. Administration. What accommodations need to be made to administer the assessment to students in a timely fashion?
6. Validity and Reliability. To what extent is the assessment valid and reliable? What does this imply in practice?
7. Specificity. To what extent does the assessment provide the kinds of specific qualitative and quantitative information needed to effectively shape instructional practices?

DORA and the DIBELS each provide educators with different key features appropriate for their schools. The DIBELS offers a good foundation for screening emergent readers, while DORA provides a comprehensive diagnostic assessment that, in practice, functions as a robust screening and diagnostic tool and would serve as an even more powerful differentiating assessment tool when complemented by DIBELS.

---

## References

- Center for the Improvement of Early Reading Achievement (CIERA). (2000). *Put reading first: The research building blocks of reading*. U.S. Department of Education. Office of Educational Research and Improvement. PR Number: R305R70004.
- Hintze, J.M., Ryan, A.L., & Stoner, G. (2003). Concurrent validity and diagnostic accuracy of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) and the Comprehensive Test of Phonological Processing. *School Psychology Review*, 32(4), 541-556.
- Kaminski, R.A., & Good, R.H. III. (1996). Toward a technology for assessing basic early literacy skills. *School Psychology Review*, 25, 215-227.
- Leslie, L., & Caldwell, J. (2005). *Qualitative Reading Inventory – 4*. 4<sup>th</sup> Ed. Allyn & Bacon.