The I R I: Relating Test Performance to Instruction--A Concept

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Practical diagnostic tests are in constant demand to meet the continuing search for ways to individualize instruction successfully. The informal reading inventory is one such test which is particularly functional in many classrooms because the format parallels the graded feature of a basal series. These instruments can be developed locally and even when an instrument is purchased, testing costs are minimal.

An inventory is usually comprised of word lists and passages which are either samples of each reader level of a basal series, or are samples which are approximations of typical basal reader selections. During testing the reader's ability to maintain control over fluency, accuracy and comprehension are observed and recorded.

The primary function of the informal reading inventory (IRI) is to provide an estimate of a pupil's instructional level. Instructional level is a significant concept because the effects of instruction are said to be maximized for pupils placed at this level (Betts, 1946). Essentially, instructional level is determined by oral reading errors and a comprehension score. The highest level passage which meets the criteria set for accuracy and comprehension is designated as the instructional level. Since passage difficulty relates to the book levels of a basal reader, a pupil would be placed at a specific performance level – first reader level, third reader level, etc.; levels are therefore discrete. To show growth between testings on an IRI a pupil must meet the standards for accuracy and comprehension at a higher reader level than recorded for the previous testing.

In summary, the IRI is composed of a series of graded materials, it is used to determine instructional level, and changes in reading level are recognized only when those changes affect accuracy and comprehension.

Not only is the IRI used for pupil placement, but many teachers and diagnosticians analyze specific types of word errors as a basis for pinpointing instructional needs. Word errors are analyzed in an attempt to make inferences about phonic and structural word attack skills which appear to be unknown. A summary of the types of comprehension questions missed might also be compiled. From these data an instructional program is prepared. One of the missing elements in this approach is a systematic way to prioritize the needs observed.

A different approach to test analysis would be to capitalize on the concept that levels are determined by observing the balance between accuracy and comprehension. Testing in classroom and clinic indicates that as materials become more difficult the reader tends to become less accurate and/or the reader is able to answer fewer questions following the reading of passages. Closer inspection of the performance on an IRI indicates that these two scores do not always decline evenly. Some pupils read with high accuracy, but do not answer the questions equally well. Other pupils read with many errors but answer the questions with little or no difficulty.

When such imbalances occur, the implication is that the pupil has more need for instruction in one area (accuracy or comprehension) than in another. This idea offers a way to order the test analysis sequence.

IRI Profile to Identify Instructional Needs

An imbalance in performance means that one of the two areas (accuracy or comprehension) does not meet the criteria for instructional level and that one area therefore appears to require special instructional attention. Considering the scores for these two critical areas, there are three possible patterns of sub-criteria performance:

1. a balanced decline (Ex. 1); neither performance score meets the criterion for instructional level.
2. an accuracy decline (Exs. 2 & 3); accuracy fails to meet the criterion, while comprehension is adequate.
3. a comprehension decline (Ex. 4); comprehension fails to meet the criterion while accuracy remains satisfactory

Example 1

Level	Word List	Oral Reading Accuracy	Comprehension
PP	100%	99%	100%
P	85%	97%	100%
1	70%	95%	80%
2		90%	50%

Balanced Decline

In Example 1, the criteria for instructional level (95% accuracy and 60% comprehension) are met at Level 1, but are not met at Level 2 (Silvaroli, 1979). The next higher passage is Level 2, for which the instructional criteria were not met for either accuracy or comprehension. This is the pattern labeled balanced decline. Since accuracy and comprehension decline equally, there is no evidence that special instruction is required. This type of pupil should continue to profit from the typical reading lesson.

Declining Accuracy: Word Power Weakness

When an area of need is identified, the second step is to determine, if possible, the factors which appear to be associated with this need. Declining accuracy scores can be traced

to at least two sources of instructional need. In the first illustration, inaccurate reading is related to insufficient word power. This type of reader usually misses the new or unusual words in a passage. When such words are pretaught, the reader's performance is reasonably fluent and accurate.

Example 2

Level	Word List	Oral Reading Accuracy	Comprehension
1	100%	100%	80%
2	85%	97%	80%
3	70%	95%	60%
4		89%	60%

The pupil in Example 2 maintains acceptable accuracy for levels where the word list performance is at or above 70%. Typically, as the word list becomes more difficult the pupil reads the corresponding passages with less accuracy. Despite the decline in accuracy, the pupil's comprehension remains adequate.

Declining Accuracy: Contextual Errors

Inaccurate reading may also be associated with the skills and abilities needed to read continuous lines of print. In Example 3 the pupil's accuracy decreases even when the word list performance is quite high.

Example 3

Level	Word List	Oral Reading Accuracy	Comprehension
1	100%	98%	80%
2	95%	95%	80%
3	85%	90%	60%
4	75%		

This pupil attains instructional level criteria where only five % of the "hard" or new words of that level are missed. Furthermore, the reader fails to maintain the instructional level criteria for the next passage (Level 3) even though 85% of the words (Word List) were correctly identified. Because of the power shown during the word list performance, words pronounced in isolation do not seem to account for the low accuracy scores. This pupil usually pronounces missed words correctly when they are pointed out after the reading. Words seem to be a problem only when they are in a contextual setting.

For both types of accuracy problems the word list provides the initial clues to help identify the type of accuracy problem involved. These observations are compatible with Allington's analysis (1978) of word recognition differences in context and isolation.

A further analysis of test data can clarify or modify the initial diagnostic impression. This is accomplished by checking

the recorded responses of the passages read. When word power appears to be the probable source of inaccurate reading, the pupil will most often miss the difficult words in a passage. However, when the "errors" are mainly the "easy" words, or a mixture of mostly easy and some hard words, the pattern supports the profile in Example 3. The pupil apparently knows the words in isolation, but miscalls words when reading in context. Passage analysis should either confirm the impression gained from the word list performance or provide an alternative hypothesis.

Declining Comprehension

Example 4

Level	Word List	Oral Reading Accuracy	Comprehension
3	100%	100%	60%
4	90%	97%	40%
5	85%	96%	20%

Example 4 shows a pattern of poor comprehension scores even though reading accuracy is reasonably strong. The comprehension measure of an IRI provides several clues to the poor performance. Some kind of intervention may be useful to discover possible problem areas. A pupil may read too rapidly to respond to the questions asked. If this is suspected during the testing, the examiner can direct the reader to slow down on the next passage. Then the examiner observes any changes in the comprehension measure for that passage. If poor recall is suspected, the pupil might be directed to retell the passage before the questions are asked. When a pupil can provide a correct answer to a previously missed question by simply being allowed to reread, recall may again be suspected as a primary reason for the initial incorrect response. Question types (factual, inference, etc.) may be a source of help if the questions really assess the type of understanding labeled and if there are sufficient questions to provide a reliable measure. Questions may also be incorrectly answered because of word identification errors. Such difficulties arise when words critical to an answer are missed during the reading. Word errors should be checked against comprehension responses to determine if a false diagnosis—comprehension weakness has been made.

Trial Lessons to Validate Instructional Need

Validation of a pupil's instructional need can be accomplished through one or more diagnostic or trial lessons (Harris, 1961). The purpose of a lesson would be to determine the effectiveness of specified instruction. If word power is initially identified to be the instructional need, the introduction of new words should produce better accuracy during oral reading or oral re-reading than has been previously observed. For this pupil, knowledge of the unknown words would result in more accurate reading and the maintenance of comprehension.

A pupil whose instructional need appears to stem from **contextual reading rather than word power should not profit**

from the previous lesson. This pupil may correctly identify most of the new words for the story during the readiness segment of the lesson. Even with word instruction these pupils would would not show much improvement in subsequent oral reading. Pupils whose inaccuracies in reading show up mainly during oral reading may need help with phrasing, eye-voice span, return eye-sweep or tracking a line of print. Trial lessons might include instruction in phrase reading, use of line marker, teacher modeling and practice (Cunningham, 1979) to determine which one or combination of aids reduces oral reading errors.

Comprehension problems would be similarly explored during trial lessons. Two types of intervention are possible. Instruction or discussion prior to or following the reading of a selection may improve a reader's ability to respond to later questions.

Preparation prior to reading, such as checking word meanings, relating passage ideas to the pupil's background, having the pupil anticipate story outcomes, or just using the readiness step as a way to help the pupil focus attention on the reading task may be tested by one or more trial lessons. Specific problems may be approached in the same manner. Recall might be improved if the pupil is directed to remember what was to be read, such as in the Guided Reading Procedure (Manzo, 1975). Questions or discussion following the reading might also enhance comprehension. The ReQuest Procedure (Manzo, 1969) can be employed to shape the pupil's ability to ask and respond to specific types of questions.

In its present form the proposed procedure provides a systematic decision-making process starting with a test analysis. Test analysis proceeds from identifying instructional need to the implementation of trial lessons to verify procedures and strategies which assist the reader to overcome the problems observed. The factors involved in determining reading levels (accuracy and comprehension) are used as a guide for judging the priority to assign observed needs. Gain in reading level rather than improvement of specific skills is the focus of the procedure. Implementing this procedure is obviously more complex than simply following a basal lesson plan. However, the procedure can assist the teacher make better decisions about which activities and instructional ideas can be used profitably and for whom.

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