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AN ANALYSIS OF PUBLISHED INFORMAL READING INVENTORIES

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The informal reading inventory (IRI) is a diagnostic instrument teachers have used for decades. Consisting of passages that are graded according to difficulty level, the IRI is commonly used to assist the teacher in determining what level of material a child can read on a regular basis. The IRI also provides the teacher with an opportunity to examine the strategies a child employs when interacting with text. The actual use and subsequent value of information gathered with an IRI is greatly dependent upon the teacher and his/her insights in diagnosis.

While considerable variation exists concerning how the IRI is administered, scored and interpreted, the passages are typically read aloud at sight (i.e., without rehearsal) while the teacher notes deviations from the text (mispronunciations, repetitions, omissions, etc.). Comprehension is checked after reading by asking questions that the child answers orally. The child continues on to more difficult levels until performance drops below acceptable levels on word recognition accuracy, or comprehension, or both. A silent reading measure may be secured in a similar manner.

At one time most IRIs were teacher-made instruments consisting of passages drawn from the instructional material actually used for instruction. Today a trend is evident in the production and marketing of IRIs by publishers. To be sure, commercially prepared IRIs such as those by Gray (1963, 1967) and Gilmore (1952, 1968) have been around for many years. However, new IRIs by Burns and Roe (1980), Edwall (1979), Johns (1981), Silvaroli (1976), Woods and Moe (1981) and others constitute a trend toward the ready accessibility of commercially published testing packages.

Believing that IRIs have genuine value in a comprehensive diagnostic program if used properly, we decided it would be useful to examine a number of the commercially prepared IRIs currently available for the purpose of comparing them and describing their unique features for teachers.

Advantages of Commercially Prepared IRIs

In view of the growing demands on the teacher in our complex world, the greatest advantage of commercially prepared IRIs is their ready availability. Publishers typically do not produce materials without some confidence that a market exists for each item. The recent spurt of IRI production seems to indicate that teachers buy them. Conversations with some of the teachers lead us to conclude that the modest price (usually between $3.95 - $7.95) is an inducement to buy a ready-made IRI. Many hours previously spent selecting appropriate passages, calculating readability levels

writing comprehension questions, typing ditto masters, and hurrying to staple copies of the home-made IRI can be saved by simply buying the Johns Inventory for example, or one of its cousins.

A second advantage of commercial IRIs relates to the attention that has gone into their development. That is to say, the author of such an IRI (presumably) takes pains to select passages that are self-contained (intact), of high interest to children, and are written at a particular difficulty level. Any teacher might do the same in constructing an IRI, but a reading specialist who is hoping to sell his/her instrument can take the time to attend to these details. In fact, one who develops an IRI for commercial purposes might be expected to try the instrument with a sample of children, and revise and improve it on the basis of feedback. We will see later which IRIs meet this fundamental expectation.

Yet another advantage of commercial IRIs lies in the instructions provided by the author for administering and interpreting the child's performance. Particularly, in the light of increasing knowledge about the nature of the reading process and the importance of various types of oral reading miscues (Weber, 1970; Goodman,1969; and Beebe, 1980) the modern IRI can be expected to provide guidance in how to score and interpret pupil performance. Simple quantitative assessment involving the mechanical tabulation of errors for the purpose of determining the child's "reading level" should be discouraged by the manual accompanying the commercial IRI in favor of a combined quantitative/qualitative assessment that helps the teacher examine patterns of miscues that reveal the strategies used by the child in finding meaning. One need not be a devotee of full scale miscue analysis as in the Reading Miscue Inventory (Goodman and Burke, 1972) to recognize the need for an IRI manual to go beyond simple error counts in scoring pupil performance.

Finally, a major advantage of commercial IRIs is found in the availability of more than one form of the test. Again, because of time pressures, the teacher will find it difficult to develop several forms of an IRI. Many commercial IRIs now include three separate forms thus enabling the teacher to check progress over time or retest with another form immediately, should it be required, or to test silent and oral reading plus listening.

Disadvantages of Commercial IRIs

The greatest disadvantage of a commercially prepared IRI lies in the fact that the passages used do not match directly with the material being used for instruction. As a consequence the difficulty levels indicated for each passage are not likely to match the grade level designations given for the textbooks available in the classroom. The child who reaches a "4.0" instructional level on the Silvaroli Inventory, for example, may or may not be able to handle the 4.0 level book in Houghton Mifflin's reading program. The effective teacher will need and want to determine how the grade level score achieved by a child on the IRI relates to the materials used for instruction.

Various other limitations of the commercial IRI might be mentioned, but it is only fair to point out that all IRIs are subject to the same criticisms regardless of who prepares them. For

example, passages are often too short to give the reader a chance to demonstrate his reading ability under more realistic sustained reading conditions. Comprehension questions are often ones that can be answered on the basis of prior knowledge or, conversely, the topics are unknown and totally unfamiliar to the reader. In addition, to have an adequate number of questions on a passage, items often focus on detail and recall of fact.

Differences Among IRIs

General agreement on the value and usefulness of the IRI seems to exist in the professional literature. No less than eleven articles in The Reading Teacher dealt with the nature and use of IRIs from 1976 to 1980 (Volumes 30-33). However, differences of opinion can be found on many issues related to the IRI. For example, these questions are subject to debate:

1. Should passages be read aloud or silently?
2. Should comprehension be checked by free recall or through question asking?
3. Should questions be answered with or without the opportunity to consult the passage?
4. What breaks in fluency or mispronunciations should be counted as errors?
5. Is repetition (repeating the same word or phrase an error?
6. Should errors that are corrected spontaneously by the the child be counted?
7. What level of word recognition accuracy indicates satisfactory performance (e.g., 50%, 75%, 90%)?
8. What level of comprehension indicates satisfactory performance (e.g., 50%, 75%, 90%)?

The list could go on, but the point should be clear: the popular IRI is widely accepted as a useful tool for making instructional decisions, but agreement on many specifics is lacking.

This lack of agreement is particularly notable among the host of commercially prepared IRIs now available to teachers. One purpose of this paper is to describe some of the available IRIs and to compare them on features that are basic to their use and interpretation. The IRIs in our analysis include:

Author	Title	Date	Publisher
Burns, Paul C. and Roe, Betty D.	Informal Reading Inventory	1980	Rand McNally
Ekwall, Eldon E.	Ekwall Reading Inventory	1979	Allyn & Bacon
Fry, Edward	Oral Reading Criterion Test	1971	Jamestown Publishers
Gilmore, John V. & Gilmore, Eunice C.	Gilmore Oral Reading Test	1968	Harcourt, Brace & World

Author	Title	Date	Publishers
Gray, Wm. S.	Gray Oral Reading Test	1967	Bobbs-Merrill
Johns, Jerry	Basic Reading Inventory	1981	Kendall/Hunt
McCracken, Robt.	Standard Reading Inventory	1966	Klamath Printing Company
Rinsky, Lee Ann & DeFossard, Esta	The Contemporary Classroom Reading Inventory	1980	Gorsuch Searisbrick
Silvaroli, Nicholas	Classroom Reading Inventory	1976	Wm. C. Brown
Spache, George	Diagnostic Reading Scales	1981	CTB/McGraw-Hill
Sucher, Floyd & Allred, Ruel	Reading Placement Inventory	1973	Economy
Woods, Mary Lynn & Moe, Alden J.	Analytical Reading Inventory	1981	Charles E. Merrill

The above list includes the commercially prepared IRIs accessible to us. Other inventories no doubt exist. Their omission was not deliberate nor does it imply that they were rejected. In fact, we suggest you examine other IRIs which may interest you, including ones you have developed yourself and make the same comparisons undertaken here.

In describing and comparing the commercial IRIs four major areas were considered: 1) stated purpose(s), 2) format, 3) scoring procedures and criteria employed, and 4) instructions for interpretation and use of the results.

Stated Purpose(s) of Commercial IRIs

As indicated earlier, IRIs have traditionally been used to determine what level of material a child can read comfortably. This determination is usually made on the basis of accuracy in word pronunciation and question answering. IRIs are also sometimes touted as diagnostic tools. When this is done, some classification of errors is undertaken in the interest of identifying patterns that may be indicative of a child's strengths and weaknesses. Finally, some IRIs suggest that a child's "capacity" may be estimated by comparing listening comprehension to reading comprehension.

Table 1 summarizes our findings with respect to the purpose identified by the inventory authors for their IRI. Interestingly, the two oldest inventories examined (Gilmore & Gray) are presented narrowly as tests of oral reading performance only. The test authors are careful not to suggest that oral reading performance reflects silent reading performance accurately. This fundamental issue is not addressed by the authors of the other IRIs who either imply or state explicitly that oral reading is a "window" permitting examination of an otherwise inaccessible process (silent reading).

The remaining IRIs are described as being intended to aid a teacher in determining the child's level(s) of reading. Six inventories (Burns & Roe, Johns, Rinsky & DeFossard, Silvaroli, Spache, and Woods & Moe) are described as having diagnostic value as well.

Table 1

Stated Purpose(s) of IRIs

IRI	Determine Reading Levels	Determine Strengths and Weaknesses	Determine Capacity	Other
Burns & Roe	X	X		a
Ekwall	X			b
Fry	X			
Gilmore & Gilmore				c
Gray				d
Johns	X	X	X	
McCracken	X			
Rinsky & DeFossard	X	X	X	e
Silvaroli	X	X		
Spache	X	X	X	f
Sucher & Allred	X			
Woods & Moe	X	X	X	g

a. Provide grade equivalent score
b. Phonics knowledge
c. Accuracy in oral reading, comprehension, and rate of reading
d. Fluency and accuracy in oral reading
e. Interpret whether comprehension goes beyond literal recall
f. Proficiency in oral and silent reading
g. Level of word recognition

Format and Content of Commercial IRIs

The IRIs were compared on eight features. These include: 1) number of forms of the inventory, 2) the difficulty levels of the passages, 3) the length of the passages, 4) nature of passage content (i.e., narrative and/or expository, 5) whether reading rate is an ability assessed, 6) whether illustrations accompany the passages, 7) whether the passages are given a title, and 8) whether the passages are introduced by the examiner with an explanation to the child concerning the passage content to be read. A summary of the results of this phase of the analysis is presented in Table 2.

Table 2
Format Variables

	Number of Forms	Difficulty Levels	Length of Passages	Nature of Content (Expository or Narrative)		Rate Measured	Illustrations	Titles	Passages Introduced
				Narr.	Expos.				
Burns & Roe	4	PP-12	90-200	PP-12[a]	-	yes	no	no	yes
Ekwall	4	PP-9	31-202	PP-3	4-9	no	no	no	no
Fry	1	1-7	14-54	1-5	6-7	no	no	no	no
Gilmore & Gilmore	4	1-10	26-252	1-10	-	yes	yes[b]	no	no
Gray	4	PP-Adult	21-50	PP-6	7-Adult	yes	yes[b]	no	no
Johns	3	PP-8	49-100	PP-8	4-8	yes	no	no	no
McCracken	2[c]	PP-7	47-149	PP-5	4-7	yes	no	yes	yes[d]
Rinsky & DeFossard	3[e]	PP-9	47-317	P-9	P-9	no	yes	yes	yes
Silvaroli	3	PP-8	24-165	PP-2	3-8	yes	yes	yes	yes
Spache	2	1.6-8.5	29-212	1.6-3.8	4.5-8.5	yes	no	no	no
Sucher & Allred	1	P-9	51-195	P-4	5-9	no	no	no	yes
Woods & Moe	3	P-9	50-339	P-7	8-9	no	no	no	yes

a = fiction and nonfiction, but not expository
b = one illustration used
c = each form includes passages for oral and silent reading, thus four sets are included
d = avoid giving information about passage
e = fiction, social studies & science are each a separate form

Number of Forms. The inventories all include at least 2 forms 7 of the 12 provide 3 or more forms. In several cases (e.g., Burns and Roe, Johns), users of the inventory are advised by the author that both oral and silent reading can be assessed using a different form for each assessment. In that regard, the advantage of 4 forms of an inventory is evident if both oral and silent reading are assessed on a pre-post test basis.

Difficulty Levels. The range of differences found in nearly any reading group or classroom makes it desirable that an IRI include passages at many levels. This permits the teacher to find a comfortable lower reading level and to observe how the child processes text that is difficult for him/her as well.

The inventories examined begin at a preprimer level with three exceptions (Gilmore, Sucher & Allred, and Spache). Less similarity is found with regard to the upper level. The McCracken Inventory stops at level (grade) 7. On the other hand, Gray includes an adult level passage. Other IRIs stop at grade 8, 9, 10, or 12, with grade eight being the most common stopping point.

Length of Passages. When assessing a student's reading performance the teacher must gather sufficient samples of behavior to permit reliable measurement. Other things being equal, the longer a test the more reliable it will be. Reliability is an important consideration in an IRI, of course, and is dependent to some extent on the length of the passages a student is asked to read. Longer passages provide greater opportunity to observe the child engage in reading. Obviously, longer passages take more time to administer, so reliability is gained and convenience is lost.

Some difference is evident among the IRIs with respect to length of passages. Table 2 indicates that the Fry includes the shortest passage (14 words at level 1) and the Gilmore includes the longest passage (252 words at level 10). A common length seems to be 30 or so words at the preprimer level and about 200 words at the upper grade levels.

Content of Passages. Evidence is beginning to accumulate to suggest that readers may process different types of text such as narrative and expository prose in different ways (Taylor, 1979). Children encounter narrative text in most basal readers and in works of fiction. They encounter expository text in content area textbooks. The content of passages in an IRI (i.e., whether they are narrative or expository in content) is a significant factor in how the results can be used and interpreted. That is, a reading level found on narrative material may not be an accurate indicator of the child's ability to handle expository material at the sam level, and vice versa.

The findings reported in Table 2 indicate that only a few IRIs do not include expository matter (e.g. Gilmore, Burns & Roe). The typical pattern is to include expository passages at the upper grade levels (4th and above) which often focus on science and social science concepts.

Reading Rate. Reading rate is commonly regarded as a measure of fluency. Five of the twelve inventories examined do not provide for the calculation of reading rate.

Use of Illustrations. The role of illustrations in reading is widely debated (Samuels, 1977; Braun, 1969; Arlin, Scott and Webster, 1979). Some argue that illustrations distract a reader's attention from the printed text. Others believe that expectation and general anticipation of meaning are enhanced by the availability of illustrations that relate to textual matter. It is not surprising that IRIs differ on the inclusion of illustrations to accompany passages. Table 2 shows that four IRIs (Silvaroli, Rinsky and DeFossard, Gilmore, and Gray) include illustrations.

Use of Titles. The IRIs examined also differ on the use of titles for each passage. The work of Ausubel (1960) on advance organizers is relevant in this regard. In most cases a title that conveys main idea information about the content of a passage will aid the reader in reconstructing meaning. One might argue that this is a true-to-life task since most of what one reads is preceded by a title. On the other hand, if the purpose of administering the IRI is to test the reader's ability to process running text, the use of titles may be inappropriate. In a relatively brief passage, a title may provide a disproportionate amount of information for the reader, thereby obscuring just how much understanding is obtained from the running text. Only three of the IRIs examined employ titles (Silvaroli, Rinsky & DeFossard, and McCracken).

Introduction of Passages. Finally, another area where the IRIs examined differ on a feature that may affect pupil performance has to do with whether the examiner introduces the passages. The amount and quality of introductory comments can vary just as the descriptiveness of a title can vary. In the cases where introductory activity occurs (Silvaroli, Burns & Roe, Sucher & Allred, Rinsky and DeFossard, and McCracken) the examiner calls the attention of the reader to titles or mentions topics to be encountered.

Introductory comments may affect pupil performance by serving as advance organizers, or simply by motivating the child in some manner. Table 2 indicates that introductory comments are employed in six of the IRIs examined.

Scoring Procedures and Criteria Employed

IRIs typically measure word recognition and comprehension abilities. Word recognition performance is often examined with the use of word lists (words in isolation) and through accuracy in pronouncing words in connected discourse (words in context). In some IRIs performance on graded word lists is used to estimate which passage the child should begin reading.

Comprehension is usually measured with questions asked by the examiner and answered orally by the child after reading a passage silently or orally. Questions are often classified according to a scheme that differentiates among detail or recall questions and questions calling for inference. Questions which focus on vocabulary are sometimes included as well.

In most IRIs criteria are employed which assign a label to the child's performance based on accuracy. Though terminology may vary, the levels of performance are the traditional ones promulgated by Betts (1946): 1) independent or recreational level; 2) instruc-

Table 3
Word Recognition Criteria
for Words in Isolation

	Word Accuracy		
	Independent Level	Instructional Level	Frustrational Level
Burns & Roe	90%	80–85%	75%
Ekwall	90%	80%	70%
Fry	NA	NA	NA
Gilmore & Gilmore	NA	NA	NA
Gray	NA	NA	NA
Johns[a]	95%	70–90%	65%
McCracken	92%[b]	NS	NS
Rinsky & DeFossard	85%	70%	below 70%
Silvaroli	*	*	*
Spache[c]	NA	NA	NA
Sucher & Allred	*	*	*
Woods & Moe	*	*	*

NA = Not applicable
NS = Not specified
* = Stop when child misses 5 of 20 words (75%)
a = Timed and untimed word recognition are recorded
b = Stop at 8 successive errors or when 50% of the words on a list are read incorrectly
c = Results are derived from norm-referenced grade equivalents —stop when 5 consecutive errors occur.

tional level, and 3) frustration level. A fourth level is capacity, sometimes determined as well to enable the teacher to compare actual performance with potential for the purpose of identifying reading retardation.

It should be obvious that the criteria used for judging a child's performance are critical. If a particular level of word recognition accuracy is regarded as basic to success in daily instruction, children achieving above that level will be expected to read material at a particular difficulty level. Such criteria ought to be based on empirical evidence. All too often the time-honored Betts criteria are employed without benefit of try-out and validation on specific passages. (Independent: WR–99%, Comp – 90%; Instructional: WR–95%, Comp – 75%; Frustration: WR – Below 90%, Comp – 50%; Betts, 1946).

Table 4

Word Recognition Criteria
for Words in Passages (Context)

	Word Accuracy		
	Independent Level	Instructional Level	Frustrational Level
Burns & Roe	99%	85% (gr. 1-2) 95% (gr. 3-12)	90%
Ekwall	99%	95%	90%
Fry	85.7-98.1%*	71.4-96.3%*	64.3-94.4%*
Gilmore &[a] Gilmore	NS	NS	61.5-96.0%
Gray[b]	NA	NA	NA
Johns	99%	95%	90%
McCracken	97.9-98.7%*	87.2-98.0%*	85.1-89.9%*
Rinsky & DeFossard	P-6 97% 7-9 98%	92-96 93-97	91% 92%
Silvaroli	97.9-100%	91.7-97.0%	87.5-91.0%*
Spache[c]	NA	NA	NA
Sucher & Allred	97%	92-96%	91%
Woods & Moe	99%	95%	90%

NS = Not specified NA = Not applicable
* = Based on conversion of word errors per passage to approximate percentages. Actual percentage varies among passages.
a = Less than 10 errors per paragraph is taken as satisfactory.
b = A score is obtained based on number of errors and reading time. These are converted into a grade equivalent.
c = Success or failure is determined by comparison to a minimum error criterion which was established through a norming procedure.

The results of our examination of the commercial IRIs on scoring procedures and criteria are contained in Tables 3, 4, 5, 6, and 7. Further discussion of each table is presented below.

Word Recognition Criteria. Table 3 indicates whether or not the IRIs examined include lists of words. Where used, the reader's task is to pronounce the words correctly. Some inventories (McCracken) have the child call the word when it is flashed (i.e., brief exposure using a tachistoscope) and during an untimed exposure if it is missed when flashed. This procedure is used to identify which words are sight words. In any case, the child's percentage of correct responses is used to determine (label) his level of performance (e.g. frustration level, etc.). Table 3 indicates the

criteria to be used (expressed as percentages). Obvious variation exists from inventory to inventory. This suggests that a teacher might get a somewhat different picture of Pam or Ben depending on which inventory s/he uses.

Criteria to be applied when testing the reader's ability to read words in context are given in Table 4. Though some variation is evident among inventories, greater uniformity is found in this area than in words in isolation. Where agreement exists, the explanation seems to be the use of the Betts criteria.

In order to use the criteria reported above, the teacher must be guided in knowing what to count as an error when the child reads aloud. This is especially true when some assessment of strengths and weaknesses is being undertaken, but is true even when errors are merely counted to determine the child's reading level. Common error categories have emerged over time in IRIs. Thus considerable agreement seems to exist among inventories that when a word is omitted, for example, it should be recorded and counted as an error. Table 5 indicates which error categories are listed in the inventories examined.

Of special interest to us were the instructions provided by the author of the IRI in recording and tabulating errors. We might expect, in light of considerable evidence about the value of analyzing the child's patterns of miscues that certain cautions would be given to one who uses the IRI. These cautions would emphasize the importance of qualitative assessment along the lines of the RMI procedures described by Goodman and Burke (1972). The Johns Inventory serves as an example of an inventory that provides appropriate cautions with respect to not merely treating all errors equally with regard to their nature. In fact, Johns suggests that only miscues which change meaning be counted as errors.

Comprehension. The criteria given in the IRIs for judging comprehension performance are summarized in Table 6. The influence of Betts is evident, though some IRIs deviate from the Betts pattern of 90 – 75 – 50. Ekwall, for example, bases his criteria on research findings.

Two other aspects of comprehension assessment relate to the number and types of questions included in the inventories. Table 7 indicates that some IRIs ask as many as 10 questions about a passage; others ask only 4 or 5. Some ask fewer questions at the preprimer level where passages are shorter in length. Silvaroli and Gilmore ask 5 questions at each level.

Most IRIs include questions of fact and questions requiring inference. Burns and Roe ask questions in 6 different categories including vocabulary. Gray and Gilmore ask fact or detail questions only. Table 7 summarizes the findings for the types of comprehension questions included in each IRI.

Instructions for Interpretation and Use of Results

An IRI developed for the commercial market can be expected to provide instructions to the teacher for interpreting and using the results. It is also reasonable to expect that the instrument will be tried with children and revised before distribution accord-

Table 5
Error Categories

	Substitution	Insertion	Omission	Reversal	Aid	Mis-Pronunciation	Punctuation	Repetitions	Other
Burns & Roe	X	X	X	X	X[a]	X		X	
Ekwall	X	X	X	X	X	X[b]	X	X[c]	X[d]
Fry						X[e]			
Gilmore & Gilmore	X	X	X		X	X	X	X	X[f]
Gray	X	X	X	X	X	X[g]		X	
Johns	X[h]	X	X					X	X[j]
McCracken	X	X	X		X[k]	X	X	X	
Rinsky & DeFossard	X	X	X	X	X			X[l]	
Silvaroli	X	X	X		X			X	X[m]
Sucher & Allred	X	X	X		X	X		X	X[e]
Woods & Moe	X	X	X	X	X		X	X	X[d,n]
Spache	X	X	X	X	X			X	X[e]

a. called refusal to pronounce
b. partial and gross
c. not scored as an error
d. self-correction
e. self-correction not counted as error
f. hesitation (2 sec)
g. gross and partial
h. provides for 4 types—
different beginnings
different middles
different endings
different in several parts
j. miscellaneous
k. called "pronunciation"
l. two or more words repeated to count as error
m. vowel, consonant, syllable
n. hesitation (non-error)

ing to the feedback received. Furthermore, validity and reliability information should also be supplied by the test author(s).

Because of the nature of an IRI it is not necessarily expected that norms for comparing pupil performance will be provided. We say this in part because the passages to be read in an IRI have been graded for difficulty. In other words, the IRI has a grade

Table 6
Comprehension Criteria

	Independent Level	Instructional Level	Frustrational Level	Capacity
Burns & Roe	90%+	75%	50%	75%
Ekwall	90%+	60%	50%	70–75%
Fry	NA	NA	NA	NA
Gilmore & Gilmore[1]	NA	NA	NA	NA
Gray[1]	NA	NA	NA	NA
Johns	90%+	75%	50%	75%
McCracken	90%	60–80%	50%	
Rinsky & DeFossard P-1	80%	60%	59%	
2-3	85%	65–70%	59%	
4-9	90%	75%	64%	
Silvaroli	80%	70–80%	50%	75%
Spache	NS	85%	60%	60%
Sucher & Allred	80%	60–79%	59%	
Woods & Moe	90%	75%	50%	75%

NS = Not Specified NA = Not Applicable
1 = A grade equivalent is obtained by totaling the number of correct answers for all passages, and using a table of norms.

one passage, a grade two passage, and so forth. The passages are used to determine which level the pupil can read according to a set level of accuracy in word recognition and comprehension. In this way a "grade equivalent" is identified thus making norms redundant. Norms are also unnecessary because the teacher's interest is in the pupil's individual pattern of responses when using the IRI diagnostically, not on comparing performance to a group average.

Table 8 summarizes our findings concerning the inclusion of instructions for interpreting and using the results of the IRIs we examined. We have resisted the temptation to judge the adequacy of the authors' presentations on test interpretation on the grounds that each teacher will need to decide whether a particular IRI fits with his/her own concept of reading. A crude index of attention given by the IRI authors to interpretation is provided by the number by the number of pages devoted to this matter in the test manual. Some IRIs give only a page or two of information on interpreting results (Fry, McCracken, Ekwall, Gray). Others give seven or eight pages (Johns, Gilmore).

Table 8 also indicates that nine of the IRIs examined were reportedly tried with children and revised according to the results obtained. Validity coefficients were reported for five of the instruments. An issue of particular importance in IRIs, intrascorer reliability, was addressed by only one IRI (Ekwall). Three IRIs

Table 7
Types & Number of Comprehension Questions

	Main Idea	Fact or Detail	Vocabulary	Inference	Sequence	Cause & Effect	Conclusion	Experience/Evaluation	Recall	Interpretation	Number of Questions
Burns & Roe	X	X	X	X	X	X					10(8 at PP 2 l.)
Ekwall		X	X	X							10 (5 at PP l.)
Fry[a]											0
Gilmore & Gilmore		X									5
Gray		X									4
Johns	X	X	X	X				X			10 (4 at PP l.)
McCracken[b]			X						X	X	10
Rinsky and DeFossard	X	X	X	X	X		X	X			
Silvaroli		X	X	X							5
Spache		X		X							7-8
Sucher & Allred	X	X		X	X			X			
Woods & Moe	X	X	X[c]	X		X	X				8(6 at p. 2 l.)

a = comprehension not assessed
b = use free recall first
c = called terminology

we examined provided norms.

It can also be seen in Table 8 that seven of the ten IRIs provided a bibliography that guides the teacher in locating references that are useful in understanding the nature of IRIs, how they are developed, and how they can be used and interpreted.

Summary

What we've discovered here is that considerable variation exists among IRIs. Some practices seem to reflect a "conventional wisdom" that has developed over time. Some IRIs occasionally depart from tradition on a feature or two, but still follow the general pattern. What we believe is needed is a careful examination of

Table 8
Interpreting and Using IRI Results

	Pages of information on Interpretation	Tried out with Children	Statistical Evidence of Validity Reported	Statistical Evidence of Reliability Reported	Norms Provided	Bibliography Provided
Burns & Roe	12	yes	no	no	no	yes
Ekwall	4	yes	no	yes	no	no
Fry	1	yes	yes	yes	yes	yes
Gilmore & Gilmore	8	yes	yes	yes	yes	yes
Gray	6	yes	no	yes	yes	yes
Johns	7	NR	no	no	no	yes
McCracken	1	yes	yes	yes	no	yes
Rinsky & DeFossard	9	yes	yes	no	no	yes
Silvaroli	14	NR	no	no	no	no
Spache	7	yes	yes	yes	yes	no
Sucher & Allred	4	NR	no	no	no	no
Woods & Moe	4	yes	no	no	no	yes

NR = not reported 1 = norms given for silent reading

specific features through empirical data collection to verify or challenge conventional features of IRI. Ultimately, IRIs should be based on the results of sound research rather than on traditional practice or personal whim.

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