

DOCUMENT RESUME

ED 140 265

CS 003 500

AUTHOR Quellmalz, Edys; And Others.
TITLE Toward Competency-Based Reading Systems.
PUB DATE Apr 77
NOTE 27p.; Paper presented at the Annual Meeting of the American Educational Research Association (New York, New York, April 1977) ; Reproduced from Best Copy Available

EDRS PRICE MF-\$0.83 HC-\$2.06 Plus Postage.
DESCRIPTORS *Basic Reading; Elementary Education; *Performance Based Education; *Program Effectiveness; *Reading Instruction; Reading Materials; Reading Programs; *Reading Research; Reading Skills; *Teaching Techniques

ABSTRACT

An instructional analysis was conducted for the following major reading programs widely in use in a California school district: Bank Street (1965, 1973), Macmillan (1965, 1975), Harper and Row (1966, 1972), and Ginn 360/720 (1968, 1976). This paper describes the results of the analysis, examines the programs' current designs, and recommends changes for improving instructional effectiveness. Program examination, focusing on reading skills and teaching techniques, consisted of an analysis of every lesson. Results of the analysis suggest that major reading programs fail to provide consistently for instructional effectiveness and seriously neglect some valued areas of reading skill, particularly, functional literacy skills in nonfiction prose. The paper points out that abundant research evidence indicates that the instructional variables included in the analysis do facilitate learning. Reasons for the programs' failure to provide materials and procedures that adequately use these techniques are explored in the paper, which concluded that the procedures used in this study, if used by school systems to analyze reading programs, could provide a rational basis for text selection and could reveal areas needing augmentation by teachers.

(JH)

* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *

TOWARD COMPETENCY-BASED READING SYSTEMS

Edys Quellmalz
Nancy Snidman
Joan Herman

Center for the Study of Evaluation
University of California
Los Angeles, California

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

BEST COPY AVAILABLE

The educational research and development community has refined techniques for incorporating principles derived from the psychology of learning into instructional systems. Particularly in the areas of competency based instruction, a well documented technology has evolved for the translation of learning principles into empirically verified practice (Gagne and Briggs, 1972; Baker and Schutz, 1971; Baker and Quellmalz, 1971; Bloom, 1976). There is little evidence, however, that reading programs currently in use consistently employ these fundamental instructional techniques in any systematic fashion.

Meanwhile, faced with a continued public cry to provide sound instruction in the basic skills areas and driven to combat the highly publicized decline in achievement scores, schools seek guidance in identifying those reading systems most likely to promote reading proficiency. But this is not an easy task, given the bewildering array of programs available. Criteria need to be generated to evaluate promising programs. The analysis of programs' instructional designs, along with such criteria as cost and validation evidence, is a critical factor in making judgments about program quality.

The present study was conducted in response to just such a program selection/evaluation problem in a California school district. An instructional analysis was conducted for four major reading programs widely in

PERMISSION TO REPRODUCE THIS COPY
RIGHTED MATERIAL HAS BEEN GRANTED BY

Edys Quellmalz
Nancy Snidman

TO ERIC AND ORGANIZATIONS OPERATING
UNDER AGREEMENTS WITH THE NATIONAL IN-
STITUTE OF EDUCATION. FURTHER REPRO-
DUCTION OUTSIDE THE ERIC SYSTEM RE-
QUIRES PERMISSION OF THE COPYRIGHT
OWNER

PERMISSION TO REPRODUCE THIS COPY
RIGHTED MATERIAL HAS BEEN GRANTED BY

Joan Herman

TO ERIC AND ORGANIZATIONS OPERATING
UNDER AGREEMENTS WITH THE NATIONAL IN-
STITUTE OF EDUCATION. FURTHER REPRO-
DUCTION OUTSIDE THE ERIC SYSTEM RE-
QUIRES PERMISSION OF THE COPYRIGHT
OWNER

use. As subsequent editions of the programs became available, this data was then augmented by a second analysis of the most recently available editions of these same programs.

The purpose of this paper is to describe the results of this analysis which included skill coverage and instructional design features. In addition, the paper will critique the programs' current designs and recommend changes which may improve their instructional effectiveness. Because there were certain consistencies of the instructional methods used by the four major programs, it seems reasonable that these programs are representative of the current technology of available reading systems.

Methods

Content analysis was performed on the following four reading programs: Bank Street (1965, 1973), Macmillan Reading Program (1965, 1975) Harper and Row Basic Reading Program (1966, 1972), and Ginn 360/720 (1968, 1976). These programs were selected for study because they were the most commonly used programs in the school district contracting the initial study. It should be noted that only the basic skills program was used in the analysis of the Harper and Row program. This program also included content reading, personal reading, and criterion referenced testing strands that were not available for analysis. (Since these strands are separately purchased, it is likely that a school might acquire only the core readers.)

To provide information on the degree to which programs treated various aspects of reading, it was first necessary to identify categories of reading skills that were defensible according to two criteria: first, the categories represented the full range of reading skills; second, the

categories of skills commonly occurred in elementary reading programs. The skills thus derived were: phonic analysis, word structure, sentence structure, word meaning, literal comprehension, inferential comprehension (general skills, elements of fiction and non-fiction) and study skills (information location and organization). Table 1 describes in more detail the specific skills included within each category.

Insert Table 1 about here

The four programs were also examined for the degree to which their materials and procedures employed various types of instructional techniques. The particular instructional techniques employed in the analysis were those instructional procedures with a body of research evidence supporting their effectiveness in facilitating learning. The techniques are also advocated by authorities in the field of objectives-based instruction. The instructional characteristics included direct instruction, practice, knowledge of results, testing, and remediation. Table 2 defines each technique employed in the analysis.

Insert Table 2 about here

Once the categories of reading skills and the categories of instructional techniques had been identified, the task was to analyze each program for its representation of these categories. The procedure for each program was to examine the Teacher's Edition of the reader and any accompanying workbook materials. The analysis of the older reading texts which were actually in use in the schools was conducted on all grade levels, K-6. (Note that Bank Street includes materials solely for the primary grades.) The analysis of newer editions, in the interests

Table 1
Reading Skill Areas

Phonic Analysis: student must use sound of letters-letter combinations

Word Structure: emphasis on part of a word (e.g., compound words, affixes)

Sentence Structure: emphasis on usage of word in sentence (e.g., parts of speech, verb tense, adjectives, adverbs)

Word Meaning: vocabulary development

Literal Comprehension: understanding of one or more sentences (e.g., recall, paraphrase, look for details)

Inferential Comprehension: generating information beyond what stated in story

General: relates to predictions, guesses about why, what next (e.g., main idea, cause, effect)

Fiction: responses keyed to unique fiction style and structure (e.g., plot, character, setting, figurative language)

Non-

Fiction: structural elements (e.g., main idea of total non-fiction work, issue, reasons)

Study Skills: locating information in text adjuncts, e.g., table of contents or index or in reference sources. Does not include looking for details in text, unless timed practice in skimming,

Organizing Information: outlining, summaries

Table 2

Instructional Techniques Description

Instruction: by teacher or written--teacher provides instructional cue explicitly telling student how to achieve a task or to answer a question or demonstrates the task (e.g., point out, review, tell students)

Practice:

supervised by teacher with feedback

independent; student completes task alone; feedback procedures may or may not be recommended

Knowledge of results: feedback provided for independent practice or remediation

Test: within level or unit tests

Remediation: procedures explicitly directing teachers to supply supplementary assistance to lower ability pupils

of economy, included only grade 2 and grade 5. Level 8 of the Ginn Program was chosen to represent grade 2; and due to unavailability, grade 3, rather than grade 2, was used for the Harper and Row Program.*

For each level of a program, every lesson was analyzed. "Lessons" were defined as the set of materials and procedures in a Teacher's Edition or Guide for which instructional objectives were stated. Usually lessons related to a fiction or prose selection. One aspect of the analysis consisted of tallying the number of lessons in which program materials and/or procedures presented activities related to a reading skill category. Thus a particular lesson treating phonics and literal comprehension would receive a tally in each of those categories. As the unit of analysis was the occurrence of a skill category, a lesson received only one tally for a skill category, regardless of the number of times within any one lesson that a skill was addressed. The percentage of lessons in which a reading skill was taught was then calculated by dividing the number of lessons in which a skill was actually taught by the total number of lessons. The number of skills taught in an average lesson was also derived by dividing the total number of skills taught in a grade level by the total number of lessons for that level.

The instructional techniques used in each lesson to address a skill were also tallied. Within a lesson, for example, phonics might be treated by direct instruction (the teacher telling students how to sound out a word) and also by guided practice. A tally would then be recorded for each of these instructional process categories. Again, only one tally per category was recorded per lesson, regardless of the number of times within a lesson the technique occurred. The percentage of lessons in which an instructional technique was employed to teach each separate

*The analysis of the most recent Macmillan program excluded "Extra!" because the program did not make clear when these independent exercises were to be used.

type of reading skill was then calculated. The calculation involved dividing the number of lessons in which an instructional technique had been employed for each reading skill (guided practice in phonics, for example) by the total number of lessons dealing with that skill. The average percent of times an instruction process was used to teach reading skills was found by dividing the total number of times each technique was used for any skill by the total number of reading skills occurring in the program.

Results

Results are presented separately for the older and the newer editions. Although certain comparisons have been drawn between the two editions, these must be interpreted with some caution. It should be remembered that while the analysis of the older programs is based on the average of all primary level and all intermediate grade level tests, the analysis of the more recent edition employed only second and fifth grade texts.

Skill Emphasis

Tables 3 and 4 indicate for each reading program the percentage of lessons in which each of the reading skills is treated and the average number of skills occurring in each lesson. (Table 3 presents the results of the earlier editions, and Table 4, the most recent editions.) Results are reported separately for the primary (K-3) and intermediate (4-6) grades, as well as for the entire program. The percentage of lessons

featuring each skill must be viewed in relation to the average number of skills dealt with in each lesson (indicated at the bottom of the tables). For example, only programs presenting a very large number of skills per lesson (8-10) could have a high percentage of lessons dealing with each skill. In contrast, note the Ginn program (new edition) gives the fewest skills per lesson, and their percentages for skill coverage are generally lowest.

Overall the results for the total K-6 programs show that in both earlier and newer editions word meaning and literal comprehension skills consistently receive the most emphasis, while study skills, inferential comprehension of non-fiction elements, and sentence structure (with the exception of Harper and Row) generally receive very low priority. It is interesting that while areas of skill emphasis vary from program to program and from an earlier edition to the more recent one, emphasis within a given edition of a reading program is fairly uniform from the primary to intermediate grades, especially for the newer series. This finding runs counter to the commonly held assumption (and publishers' assertions) that reading skill emphasis shifts dramatically between primary and intermediate grades.

Table 5 ranks the skill areas that are emphasized by each reading program (those skills which occur in at least 60% of the lessons or the three skills which occur in the highest percentage of lessons) by grade levels for both the older and newer editions. Examining this table in conjunction with the earlier tables clarifies the differential skill emphasis between the older and newer editions and between the primary and intermediate grades. As might be expected, there is great emphasis in both editions on phonics analysis skills during the primary grades, with a slight decrease in attention in the newer versions. In the older

editions, the primary reading programs also emphasize literal comprehension, word meaning, and word structure. While these trends are also present in the newer editions, the relative emphasis on word structure has decreased, and there is a substantial increase in the percentage of lessons devoted to inferential comprehension skills.

For the intermediate grade levels in the older editions, there is a continuing emphasis on word meaning, a slight decrease from the primary level in emphasis accorded to literal comprehension (although still treated in about 60% of the lessons), and increased attention to inferential comprehension of fictional elements and non-fictional elements and study skills. In the newer editions for grade 5, the same trends are present for word meaning, non-fiction and study skills. However, literal comprehension coverage increases from the earlier editions, and attention to word structure has been increased. It is interesting that in two of the three fifth grade programs, attention to fictional elements decreases from grade 2 to grade 5.

In general, there is a trend from the old editions to the new editions to provide increased attention to all the inferential skills in the primary grades, and a slight decrease in emphasis given these skills for the intermediate grades. It is noteworthy that inferential comprehension of non-fiction elements is given very low priority, with three of the four programs treating the skill in only about 8% of the lessons for grade 2 and 5. Interestingly, the Harper and Row Program, which gives non-fiction the most attention also has a content area reading series which was not included in the present analysis. Similarly, attention to the study skill of organization of information has increased for both grades, but the level is still extremely low (about 7% of the lessons).

Instructional Techniques

General design. Tables 6 and 7 display the percentage of lessons within each reading skills in which the separate instructional techniques were specified. The summary figures at the bottom of the tables indicate for each reading program the average percent of times each instructional technique was specified for teaching all reading skills within the lessons. The frequency with which the most basic instructional techniques (i.e., instruction, practice, and knowledge of results) were used was much lower than might be expected or hoped for, with the exception of supervised practice. It is interesting that while specification of some techniques, notably supervised practice, independent practice, and feedback procedures, has increased in the newer editions of three of the programs, the trend is downward for the use of teacher directed and written instruction. Provisions for testing have remained fairly constant and those for remediation have plummeted.

Teacher directed instruction. In both the older and newer editions of the reading programs, provisions for explicit instructional cues for the teacher to use in instruction is very low, with the exception of the Bank Street program. Teacher instruction in literal comprehension is almost non-existent closely followed by instruction in general inferential comprehension. In the older editions, teacher-led instruction is directed mostly toward phonics analysis, word meaning and word structure. The same trend is evident in the newer editions, but instruction in word meaning receives somewhat less attention. Similarly, for the older editions at the intermediate level, the focus is on word meaning and word structure, with little attention to instruction in phonics analysis. In the newer texts for the intermediate level, most teacher instruction is directed

toward word structure and fictional elements, with considerably less instruction, from earlier editions, dealing with word meaning.

Written instruction. Written instruction, as might be expected, is employed more often in the intermediate grades than in the primary grades. However, the technique is used very infrequently in both the older and the newer editions. Those publishers employing written instruction in the earlier editions continued to use it, even if seldomly, in the newer editions.

Supervised practice. Clearly the most widely used technique for all skills, the use of supervised practice has increased in the newer versions of the reading programs. The increase is particularly evident in the area of inferential comprehension skills, with the exception of the Ginn program. This general increase may be attributable to greater use of questioning as the children read a story.

Independent practice. The use of independent practice has also increased in the newer versions of the reading programs. The current editions feature moderate use of this strategy. While the older primary level texts gave the most independent practice in literal comprehension and word meaning, the newer editions most consistently provide independent work in phonics, word meaning, and location study skills, with slightly less independent practice in literal comprehension. At the intermediate level, the newer texts most consistently provide independent practice for literal comprehension and study skills.

Knowledge of results. Specifying feedback to students for independent practice has increased in the newer editions, although the use of this technique is still quite variable across programs, and overall much lower than might be expected.

Testing and remediation. The frequency of testing has increased slightly in the newer editions of some of the reading programs; however, the use of specified remediation has generally decreased from its previous low level. (It should be noted that Harper and Row has both criterion referenced tests and remedial dittos that were not available for the present analysis.) In general, there is great variability both between and within programs in the use of these techniques.

Conclusions

Results of the instructional analysis suggest that major reading programs fail to provide consistently for instructional effectiveness, and seriously neglect some valued areas of reading skills, in particular functional literacy skills in non-fiction prose. Abundant research evidence, both from the psychology of learning and the technology of instruction, indicate that the instructional variables included in the present analysis do facilitate learning (Gagne and Briggs, 1973). Why then do these programs fail to furnish materials and procedures adequately employing these techniques? One answer may be that the reading programs under study advocate a different instructional approach. Examining the rhetoric introducing the intent and structure of each program, however, reveals at least lipservice to "mastery" type approaches. An alternative explanation could be that the authors assume that classroom teachers automatically and routinely use these research based techniques. Yet, again the rhetoric of the programs credit their materials with systematically reinforced skill progression. A third interpretation is that, in response to consumer demands accompanying the mastery learning movement,

publishers have simply costumed their standard basal offerings in objectives, criterion-referenced tests and rhetoric about systematic skill development.

If reading programs are to claim adherence to a competency based mastery learning model, they must substantially improve their instructional design, beginning with a more focused approach to skill acquisition. In no subject area except reading is there such a concerted attempt to inundate the learner with so many skills per lesson (in the present study the average was about five). Particularly during skills acquisition, it seems intuitively obvious that systematically dealing with one or two skills would be more beneficial to student achievement than the shot-gun bombardment they presently receive.

The present reading programs are particularly weak in the important area of teacher instruction. Explicit instructional cues for each skill can and should be provided. There are known rules, definitions and strategies which can be explained to developing readers on how to decode, derive word meaning, literally comprehend (e.g., by finding types of details, cue words for sequence, etc.), infer meanings (if materials provide enough recurring cues to allow for an inference), identify fiction and non-fiction elements and use study skills. While some programs are providing cues for phonics analysis, the frequency of instruction in most other skills is, to say the least, very disappointing. Instructional cues should be provided by the teacher as an introduction to a skill, or for those preferring the discovery method, as part of feedback. Written instruction, particularly at the intermediate levels could also be more widely utilized. A progression, then, of explicit instruction, massed to distributed supervised and independent practice (with feedback)

for each skill should provide a sound basis for initial skill acquisition according to the well documented technology of instructional design. Further, frequent assessment of those skills designated as basic "core" reading skills should be accompanied by supplementary remedial instruction and practice.

A large part of the problem, especially in the area of comprehension skills, may be the reading programs' tenacious adherence to the basal approach to reading. Children read a story and then answer a series of questions about it. The organizing structure of the program derives from the thematic and genre representation of the stories, not from their representation of reading skills. It seems reasonable that high quality, interesting text selections can and should be included for their clear exemplification of particular reading skills, and not just because they are cute folk tales. (But this unfortunately is not the case.)

That these recommendations are standard fare for instructional design in competency-based approaches is clear. That the reading materials currently in use and available to the schools, as exemplified by the four programs in our study, fall short of adequate instructional design for most skills is also clear. This finding is particularly disturbing given the millions of dollars expended in the educational market place for reading programs. Perhaps it is time that the public demands some evidence that the reading programs they purchase are instructionally effective, or, at the very least, derived from instructionally sound procedures.

The present study was intended to serve several purposes. First, to indicate the present instructional state of current reading programs. Second, to suggest dimensions along which programs can improve their

instructional designs. Finally, it is hoped that the procedures employed in this study will be used by school systems to analyze reading programs currently in use or being considered for purchase. Not only could such an analysis provide a rational basis for text selection, but further, could make explicit those areas where classroom teachers need to augment the instructional procedures supplied by the reading program. Given our findings, the latter strategy is critical if the decline in student reading scores is to be reversed.

Table 3
Percentage of Lessons which Deal with Major Reading Skills
and
Average Number of Skills in Each Lesson
Older Editions

Percentage of lessons which deal with major reading skills

Program

Skill	Ginn 360			Harper & Row			Bank Street	Macmillan Reading Program		
	K-3	4-6	Total	K-3	4-6	Total	K-3	K-3	4-6	Total
1. Phonic Analysis	58	22	50	96	15	59	77	76	24	57
2. Word Structure	60	61	61	92	44	70	63	68	33	55
3. Sentence Structure	25	9	21	55	25	41	11	16	21	18
4. Word Meaning	60	58	60	82	66	75	43	99	94	98
5. Literal Comprehension	75	61	72	92	60	78	54	90	79	86
Inferential Comprehension:										
6. General	46	53	48	24	30	29	36	71	66	69
7. Fiction Elements	54	88	62	17	52	33	18	57	63	59
8. Nonfiction Elements	3	18	6	0	22	10	0	64	27	12
Study Skills:										
9. Location of Information	21	31	21	34	26	30	11	29	66	42
10. Organization of Information	6	7	6	2	11	6	0	12	22	16

Average number skills covered in each lesson 4.0 4.4 4.0 5.0 3.5 4.3 3.1 5.2 5.0 5.1

Table 4
Percentage of Lessons which Deal with Major Reading Skills
and
Average Number of Skills in Each Lesson
Most Recent Editions

Percentage of lessons which deal with major reading skills

Program and Grade Level

Skill	Ginn 720			Harper & Row			Bank Street	Macmillan Reading Program		
	2nd	5th	Total	3rd	5th	Total	2nd	2nd	5th	Total
1. Phonic Analysis	36	0	18	76	84	80	97	71	59	65
2. Word Structure	40	35	37.5	69	60	64	69	78	63	70.5
3. Sentence Structure	6	8	7	50	49	50	18	14	14	14
4. Word Meaning	48	50	49	88	81	84	100	78	80	79
5. Literal Comprehension	58	63	60.5	91	89	90	95	98	86	92
Inferential Comprehension:										
6. General	34	42	38	93	81	87	96	77	61	69
7. Fiction Elements	46	41	43.5	33	52	43	32	63	39	51
8. Non-Fiction Elements	8	10	9	16	35	26	7	4	14	9
Study Skills:										
9. Location of information	22	46	34	28	29	28	21	15	51.2	33
10. Organization of information	6	13	9.6	7	24	16	5	4	16	10

Average number of skills covered in each lesson

3.0 3.5 3.3 5.5 5.9 5.7 5.4 5.03 4.83 4.93

Table 5 - Rank Order of Skills Emphasized in Reading Programs
and Percentage of Lessons Dealing with Skill*

Older Editions						
Text/ Grade	Ginn		Harper Row		Bank Street	Macmillan
	K-3	4-6	K-3	4-6	K-3	K-3 4-6
Lit Comp (85%)	Fiction (88%)	Phonics (96%)	Word Mean (66%)	Phonics(77%)	Word Mean (99%)	Word Mean (94%)
Word Mean (60%)	Lit Comp (61%)	Word Struc(92%)	Lit Comp (60%)	Word Struc(63%)	Lit Comp (90%)	Lit Comp (79%)
Word Struc(60%)	Word Struc(61%)	Lit Comp(92%)	Fiction (52%)	Lit Comp (54%)	Phonics(76%)	General(66%)
		Word Mean(82%)			General(71%)	
					Word Struc(68%)	
					Non Fict(64%)	
Most Recent Editions						
Text/ Grade	Ginn		Harper Row		Bank Street	Macmillan
	2	5	2	5	2	5
Lit Comp (58%)	Locate (46%)	General (93%)	Lit Comp (89%)	Word Mean(100%)	Lit Comp (98%)	Lit Comp (86%)
Word Mean(48%)	Lit Comp(65%)	Lit Comp (91%)	Phonics (84%)	Phonics (97%)	Word Mean(78%)	Word Mean (80%)
Fiction (46%)	Word Mean(88%)	Word Mean(88%)	Word Mean (81%)	General (95%)	Word Struc(78%)	Word Struct(63%)
		Phon Anal(76%)	General (81%)	Literal (95%)	General (77%)	General (61%)
		Word Struc(69%)	Word Struc(60%)	Word Struc(69%)	Phonics (71%)	
					Fiction (63%)	

* Skills ranked were either 1) contained in at least 60% of lessons or 2) top three skills if program's percentages were all below 60%.

Table 6
Percentage of Lessons Within Each Reading Skill
Specifying Particular Instructional Processes
Older Editions

Skill	Grade	Instructional Process															
		Instruction				Practice								Knowledge of Results			
		Teacher		Written		Supervised		Independent		Knowledge of Results		Testing		Remediation			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1. Phonic Analysis	K-3	36	61	95	59	0	2	0	0	80	47	95	58	24	40	95	75
	4-6	10	2	71		0	10	12		3	2	29		0	91	26	
2. Word Structure	K-3	31	49	83	39	0	7	0	0	73	65	73	49	37	48	64	81
	4-6	48	22	65		0	19	17		12	43	32		62	88	68	
3. Sentence Structure	K-3	15	53	62	12	0	0	0	0	49	53	14	12	0	9	69	51
	4-6	39	14	30		0	35	30		0	22	37		100	69	70	
4. Word Meaning	K-3	19	46	84	81	0	3	0	0	57	60	84	81	58	66	69	74
	4-6	36	5	95		0	7	6		49	91	22		79	40	28	
5. Literal Comprehension	K-3	0	23	44	0	0	0	0	0	84	77	49	95	38	64	72	100
	4-6	0	6	4		0	2	1		84	93	93		35	37	70	
6. Inferential Comprehension - General	K-3	7	0	45	2	0	0	0	0	84	72	85	73	45	57	100	51
	4-6	2	0	7		0	3	9		75	21	61		63	60	83	
7. Fiction	K-3	4	5	61	10	0	0	11	0	92	91	54	91	16	5	98	18
	4-6	45	35	28		0	19	29		97	86	46		58	62	40	
8. Non-Fiction	K-3	42	0	0	44	0	0	0	0	83	0	0	7	33	0	100	11
	4-6	42	4	24		0	22	63		67	69	76		79	38	74	
9. Study Skills - Locate	K-3	5	6	97	54	0	5	0	0	52	88	52	51	34	17	41	47
	4-6	37	6	41		0	21	22		27	32	54		95	91	61	
10. Study Skills - Organize	K-3	12	0	100	26	0	0	0	0	31	0	0	71	46	0	0	42
	4-6	22	0	29		0	13	32		57	57	74		100	57	58	

Average Percent of Times Process Specified for Teaching Reading Skills

K-3	16	39	74	35	2	3	1	0	75	65	73	70	33	45	84	66	3	0	0	66	12	0	8	6	29	30	0	19
4-6	29	11	40		5	13	17		57	65	58		60	59	59		22	0	59		13	0	0		31	24		15

1 = Glenn 720; 2 = Harper & Row; 3 = Bank Street; 4 = Macmillan Reading Program

* This column reflects the percentage of times knowledge of results was given for independent practice.

Table 7
Percentage of Lessons Within Each Reading Skill
Specifying Particular Instructional Processes
Most Recent Editions

		Instructional Process																											
Skill	Grade	Instruction:								Practice:								Knowledge of Results				Testing				Remediation			
		Teacher				Written				Supervised				Independent															
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1. Phonetic Analysis	2	28	69	97	57	0	18	2	3	56	91	100	100	100	93	86	89	100	98	18	91	22	0	8	5	28	52	2	0
	5	0	57		0	0	2		0	0	100		93	0	17		4	0	56		50	0	0		0	0	0		0
2. Word Structure	2	55	45	100	28	0	48	1	1	100	48	100	93	20	93	65	75	75	95	38	44	5	0	11	6	10	43	0	
	5	65	79		46	6	3		6	94	100		93	100	47		72	29	67		97	24	0		0	24	3		
3. Sentence Structure	2	33	59	63	8	0	7	0	8	100	66	95	46	0	59	42	69	0	76	63	33	33	0	16	8	0	28	5	0
	5	25	77		55	0	3		0	100	81		100	25	32		73	0	60		88	0	0		18	0	0	0	0
4. Word Meaning	2	25	27	95	19	0	0	0	3	100	88	100	100	92	71	76	49	45	100	25	23	25	0	7	3	25	4	0	0
	5	0	71		47	0	8		31	97	96		97	100	51		53	46	69		74	21	0		3	17	0		0
5. Literal Comprehension	2	3	0	20	0	0	0	0	0	97	85	98	59	48	74	34	72	79	90	26	26	14	0	7	2	7	0	1	0
	5	0	2		0	0	0		0	40	75		78	93	59		90	75	85		19	7	0		6	7	0	0	0
6. Inferential Comprehension - General	2	12	0	17	4	0	0	0	0	8	93	99	100	100	28	31	38	94	80	50	70	29	0	8	4	29	0	4	0
	5	5	0		4	5	0		4	25	84		95	100	39		63	70	82		68	20	0		10	15	0		0
7. Fiction	2	70	76	63	9	0	0	0	0	91	100	91	100	13	11	49	91	33	50	21	96	4	0	9	3	4	0	0	0
	5	46	73		26	22	24		19	88	100		90	66	35		65	44	79		85	4	0		3	2	0		0
8. Non-fiction	2	100	0	14	50	0	0	0	0	25	100	100	100	0	0	57	25	0	0	50	0	0	0	14	0	0	0	0	0
	5	8	50		27	6	14		0	8	100		100	8	68		45	0	93		80	0	0		0	0	0	0	0
9. Study Skills - Locate	2	64	31	59	50	0	50	0	0	100	99	100	21	100	81	77	0	82	100	47	0	0	0	27	7	0	19	0	0
	5	32	44		12	23	3		9	32	50		90	100	83		90	9	67		78	0	0		7	0	0		0
10. Study Skills - Organize	2	33	25	80	25	0	0	0	0	67	100	100	25	67	0	0	0	50	0	0	0	0	0	40	0	0	0	0	0
	5	0	33		23	17	8		8	0	100		62	100	26		85	0	100		55	0	0		8	0	0	0	0

Average Percent of Times Process Specified for Teaching Reading Skills

2	36	57	0	19	0	12	0	1	88	83	88	97	60	63	51	59	76	93	30	30	14	0	10	4	14	17	1	0
5	25	46		13	12	7		9	63	91		92	88	45		93	43	76		41	10	0		5	8	0		0

1 = Ginn 720; 2 = Harper & Row; 3 = Bank Street; 4 = Macmillan Reading Program

* This column reflects the percentage of times knowledge of results was given for Independent practice.

** Grade 3 text was used for analysis of the Harper & Row series.

REFERENCES

Baker, E. and Quellmalz, E. Research-Based Techniques for Instructional Design. Washington, D.C.: National Center for Educational Research and Development, 1972.

Baker, R. L. and Schutz, R. E. Instructional Product Development, New York: Holt, Rinehart and Winston, Inc., 1974.

Bloom, B. S. Human Characteristics and School Learning, New York: McGraw-Hill Book Company, 1976.

Gagne, R. M. and Briggs, L. J. Principles of Instructional Design, New York: Holt, Rinehart and Winston, Inc., 1974.