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ABSTRACT

National Evaluation Systems, Inc., has developed curriculum evaluation techniques, in terms of learner verification, which may be used to help the curriculum-development efforts of publishing companies, state education departments, and universities. This document includes a summary of the learner-verification approach, with data collected about a new mathematics series, and a report about the application of the procedure to the "Series r" reading program developed by the Macmillan Publishing Company. The report describes five components of learner verification (overall student achievement, specific student achievement, specific student growth and retention, and student and teacher opinion and satisfaction data), discusses the evaluative findings for each of these components, summarizes the overall evaluation, and contains charts illustrating the findings. (JM)

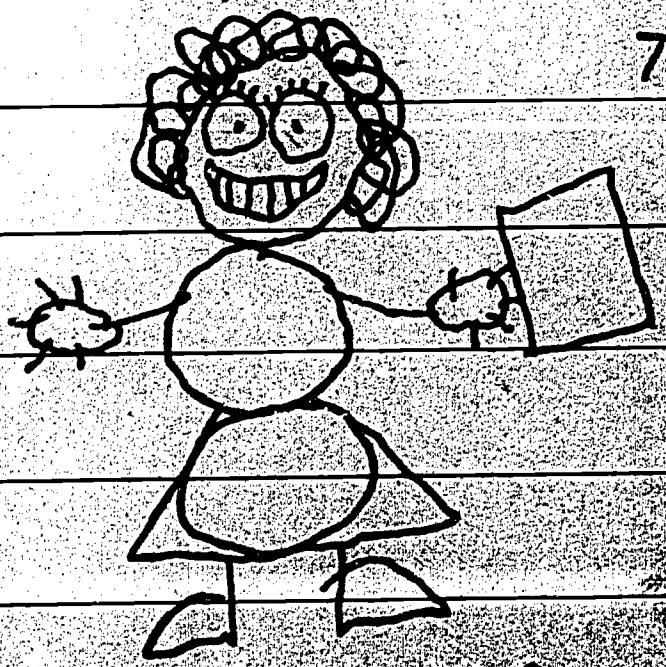
The Learner Verification of Series r: The New Macmillian Reading Program

Dear Auther,

The book I have been Readi
are very interesting. I liked the
"Extra" Bycouse they were fun
and easy to work with, I like your
Work, So keep it coming.

Theresa

Your reader
Theresa Mc Call



National Evaluation Systems, Inc., Post Office Box 226, Amherst, MA 01002 Telephone: (413)

THE LEARNER VERIFICATION OF

SERIES r: THE NEW MACMILLAN READING PROGRAM

HIGHLIGHTS

Prepared by:

National Evaluation Systems, Inc.
Post Office Box 226
Amherst, Massachusetts 01002

William Phillip Gorth, Ph.D., President
Peter E. Schriber, Ed.D., Vice-President
Richard G. Allan, Ed.D., Vice-President
Janet C. Ziegenhagen, Project Coordinator

July 15, 1975

The letter that appears on the cover of this report was submitted by a student in St. Louis, Missouri.

INTRODUCTION

Throughout the school year 1974-75, National Evaluation Systems, Inc., conducted a learner verification of *Series r: The New Macmillan Reading Program.* This summary report contains highlights from the information that was collected during the term of the verification. Five components of the learner verification are described below.

Component A: Measurement of Overall Student Achievement Using *Series r*

Component A employed a number of widely known, norm-referenced achievement tests to measure student growth during the period between the administration of a Fall pretest and a Spring posttest. These commercially available tests provide highly credible measures of student growth with which teachers, administrators, school boards, and state departments of education can evaluate the effectiveness of *Series r.*

Component B: Specific Student Achievement at Four Levels of *Series r*

Component B included the administration and analysis of *Series r* Post-Assessment Tests at Levels 6, 11, 22 and 28. Through the analysis of a large stude[illegible]mple's test results, National Evaluation Systems was able to determine the degree of student mastery of specific focus skills at selected levels.

Component C: Specific Student Growth and Retention Across Levels of *Series r*

Component C included two sets of parallel test forms developed by National Evaluation Systems for use at the third- and fourth-grade levels. The objective of this component was to determine, with an independently developed instrument, student pre-, post-, and retention performance on approximately 10 of the focus skills at each of the two grade levels.

Components D and E: Student and Teacher Opinion and Satisfaction Data

Components D and E involved the use of four types of questionnaires in both the Fall and Spring. Opinion and satisfaction data for both samplings were gathered through the use of a "Teacher Opinion Questionnaire," "Student Opinion Questionnaire for Kindergarten through Grade 3," "Student Opinion Questionnaire for Grades 4 through 6," and a "Field Test Monitor Questionnaire." The administration of questionnaires enabled National Evaluation Systems to collect opinions and suggestions covering a wide range of topics from approximately 2,500 students and over 100 teachers in the Fall and again in the Spring.

The learner verification of *Series r* involved 173 classrooms across six regions of the country: Region 1 (Northeast), Region 2 (Southeast), Region 3 (Southwest), Region 4 (Midwest), Region 4A (Great Lakes), and Region 5 (West). Table 1 on the following page contains a pilot classroom distribution chart by region, grade level, and community type.

Pilot Classrooms Participating in the Learner Verification of Series r: The New Macmillan Reading Program

Grade Level		Region 1: Northeast	Region 2: Southeast	Region 3: Southwest	Region 4: Midwest	Region 4A: Great Lks.	Region 5: Western	TOTAL
Kindergarten	Inner-city	1			1	1	2	5
	Suburban				2			2
	Rural							
Grade 1	Inner-city	5	4	2	5	1	2	19
	Suburban	4	6	3	4	1	1	19
	Rural		4	2	1		2	9
Grade 2	Inner-city	5		1	7	1	1	15
	Suburban	2		2	3	1	3	11
	Rural			1			1	2
Grade 3	Inner-city	2				1	4	7
	Suburban	4		2	3	1	1	11
	Rural					1	1	1
Grade 4	Inner-city	4	2				1	7
	Suburban	3	5	3	6	2	4	23
	Rural	2	3					5
Grade 5	Inner-city	2	3				2	7
	Suburban			2	6	2	5	15
	Rural							
Grade 6	Inner-city						1	1
	Suburban	2		1	6	3	2	14
	Rural							
TOTAL FOR EACH REGION		36	27	19	44	14	33	173

TABLE 1

Throughout the school year each of the 173 participating pilot teachers, approximately 4,500 students in grades K-6, and 36 regional Macmillan sales representatives participated in the learner verification.

SUMMARY OF RESULTS FOR COMPONENT A: MEASUREMENT OF OVERALL STUDENT ACHIEVEMENT

The primary purpose of measuring student achievement with established and widely accepted tests of basic verbal skill was to determine how well students using *Series r* reading materials were learning reading skills and achieving in related skill areas. A secondary purpose was to identify any patterns of student performance within and across grade levels which showed differing reading growth rates for community types and for particular subtests of the testing batteries.

Below are summaries of student growth between the Fall and Spring test administrations.

Grade 1. These students were included in the Spring administration only. For all four of the verbal subtests of the Stanford Early School Achievement Test and the three subtests of the Cooperative Primary Test, the results were positive. Students achieved at or above average performance on all seven subtests (for example: Sentence Reading, sixty-second percentile; Reading, sixty-eighth percentile; Word Analysis, seventy-fourth percentile).

Grade 2. Highlights included good achievement on the Cooperative

Primary Test, with special notice of the Word Analysis subtest, on which the group achieved a percentile rank of 65. On the Iowa Tests of Basic Skills, students were expected to gain one month in grade equivalent score for each month between the Fall and Spring administrations. Excellent performance was indicated by the Total Language score, which showed that the students exceeded expected growth by one month.

Grade 3. The results of the Comprehensive Tests of Basic Skills showed the third graders to have exceeded the expected grade equivalent scores in the Spring on all six subtests. In five out of six cases the amount by which the expected scores were exceeded was between three and five months' growth. All subtests showed grade equivalents of 4.0 years or higher.

Grade 4. On both the Comprehensive Tests of Basic Skills and the Iowa Tests of Basic Skills, the fourth graders as a group equalled or exceeded the expected grade equivalent scores for the Spring test administration.

Grade 5. On both the Comprehensive Tests of Basic Skills and the Iowa Tests of Basic Skills, the fifth graders as a group equalled or exceeded the expected grade equivalent scores for the Spring test administration on 15 of the 16 subtests.

Grade 6. On six of the seven verbal subtests of the Comprehensive Tests of Basic Skills, the sixth graders as a group achieved at or above the expected grade equivalent scores for the Spring administration. Of particular note was student performance for Total Study Skills, which exceeded expected growth by nearly seven months.

Across the six grade levels the overwhelming result is that in all but a very few instances the student groups at each grade level achieved at or above the expected grade equivalent scores. There were frequent instances in which performance exceeded expectation by several months.

An interesting pattern is that students at different grade levels exceeded expected performance on different subtests. This is one indicator of the ability of *Series r* to cover a wide range of language arts skills in addition to reading comprehension.

There were no identifiable negative patterns across grade levels for specific subtests.

An overview of the results by community type indicates that regardless of community type (inner-city, suburban, rural), students tended to achieve at or above the expected growth represented by the grade equivalent scores.

Reading Figures 1, 2, 3, 4 and 5. For the Comprehensive Tests of Basic Skills and the Iowa Tests of Basic Skills, scores were converted to grade equivalent scores. For example, a grade equivalent score of 4.5 indicates that the student performed on a specific test as a student midway through the fourth grade (i.e., fourth grade, fifth month) would be expected to perform on that test. Thus, if a group's average grade equivalent score in the Fall is 4.1 and the group is administered the Spring test six months later, the expected achievement would be one month's growth for each month of school, or a Spring grade equivalent score of 4.7 (4.1 + 0.6 = 4.7). Figures 1, 2, 3, 4 and 5 highlight results of Component A.

FIGURE 1

Grades 1 and 2: Spring Testing Results for
Cooperative Primary Tests, Forms 12A and 23A

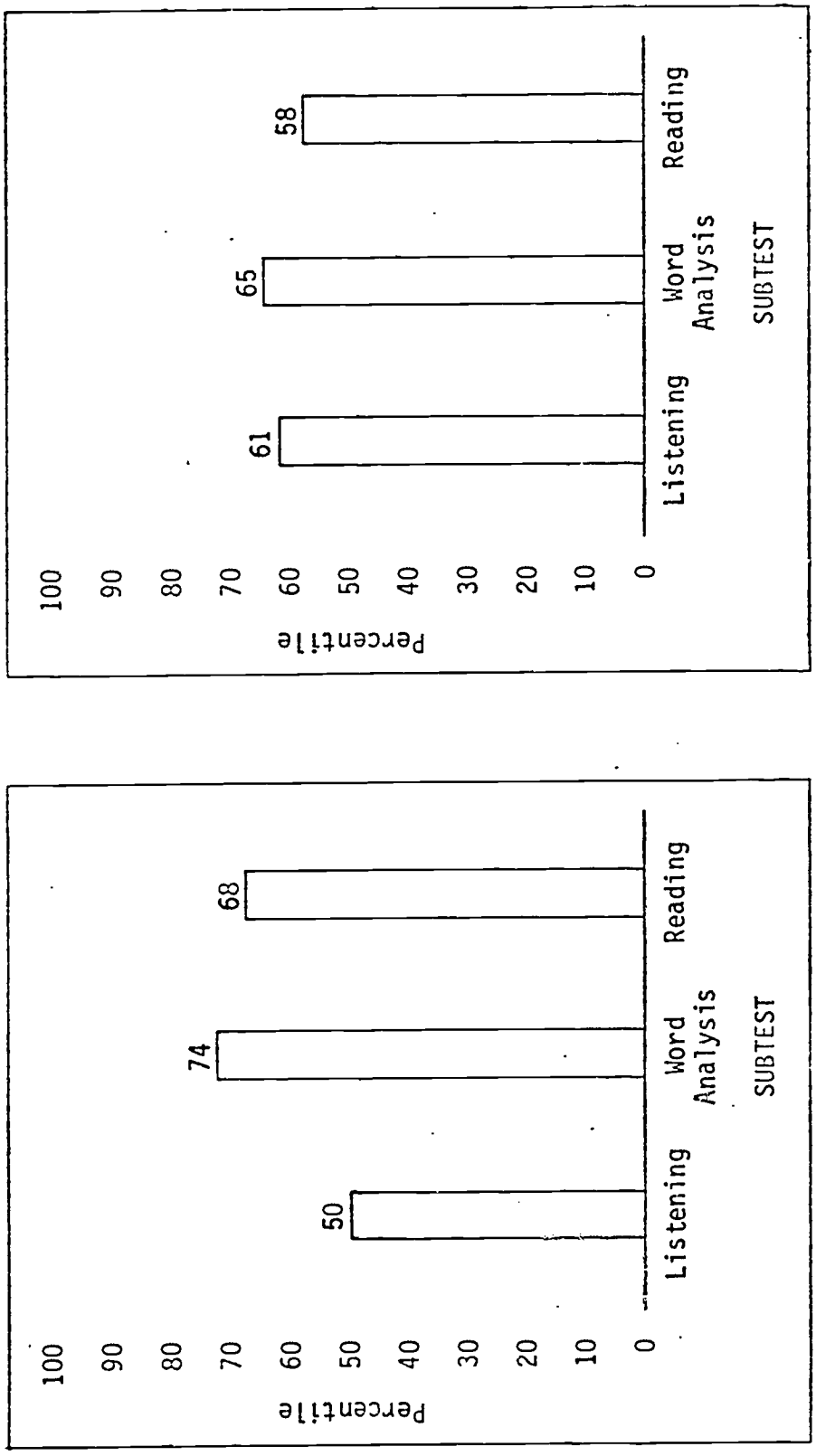
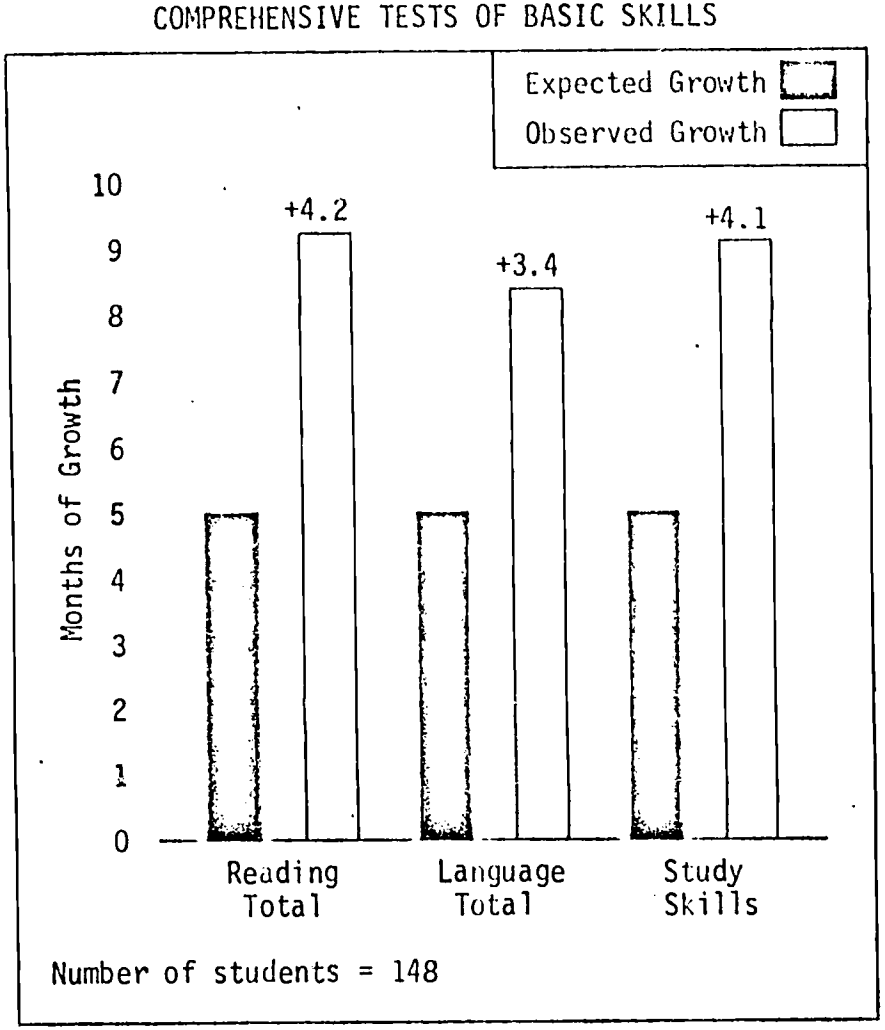


FIGURE 2

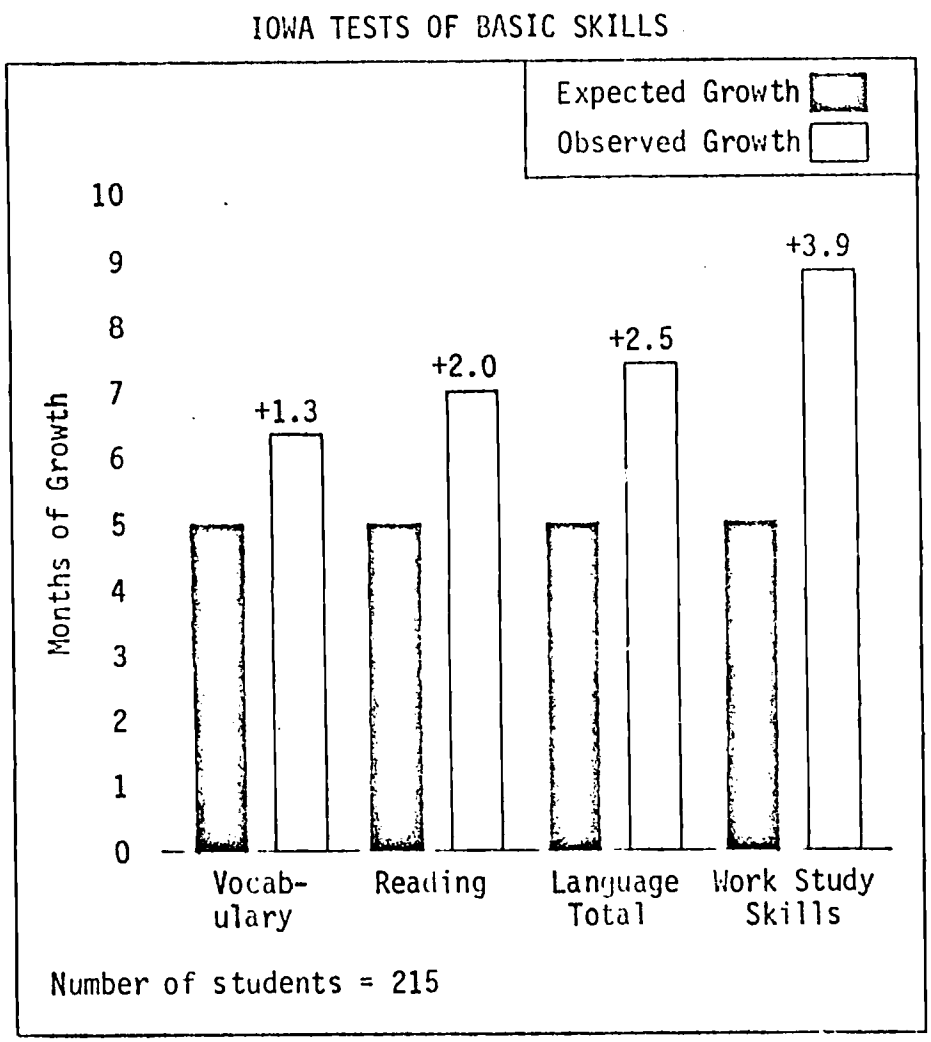
Grade 3: Standardized Pretest (Fall) and Posttest (Spring)
Expected Months of Growth[a] Compared to Observed Months of Growth



[a] Expected Months of Growth is based on the number of months between pre- and posttest administration dates.

FIGURE 3

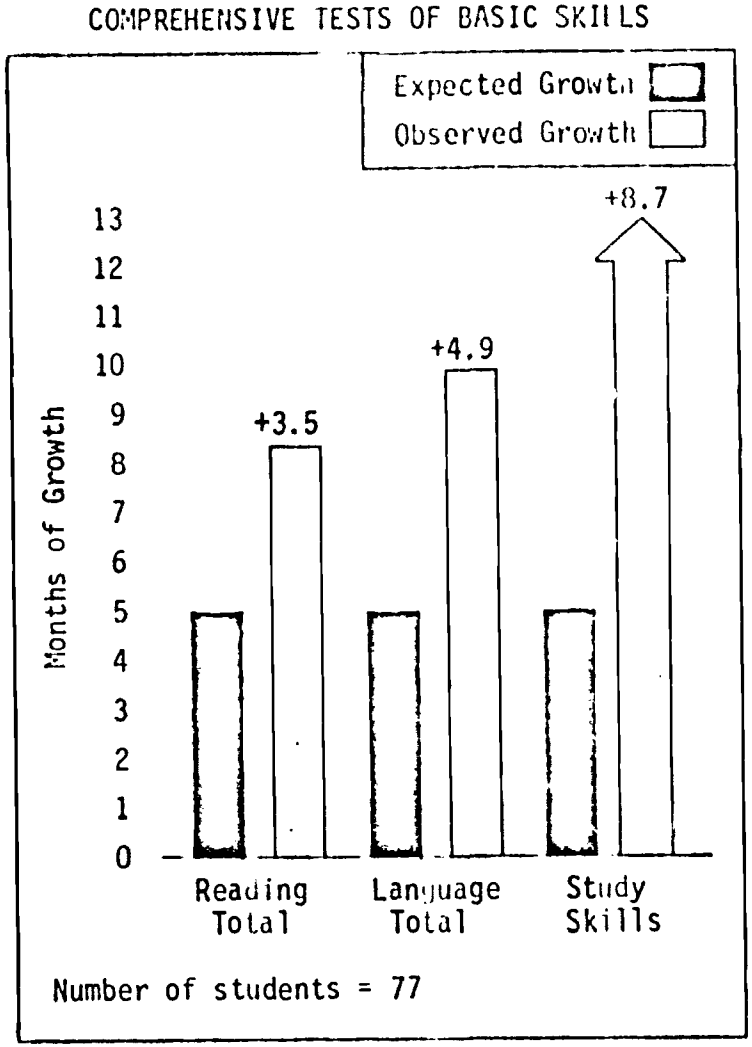
Grade 4: Standardized Pretest (Fall) and Posttest (Spring)
Expected Months of Growth[a] Compared to Observed Months of Growth



[a] Expected Months of Growth is based on the number of months between pre- and posttest administration dates.

FIGURE 4

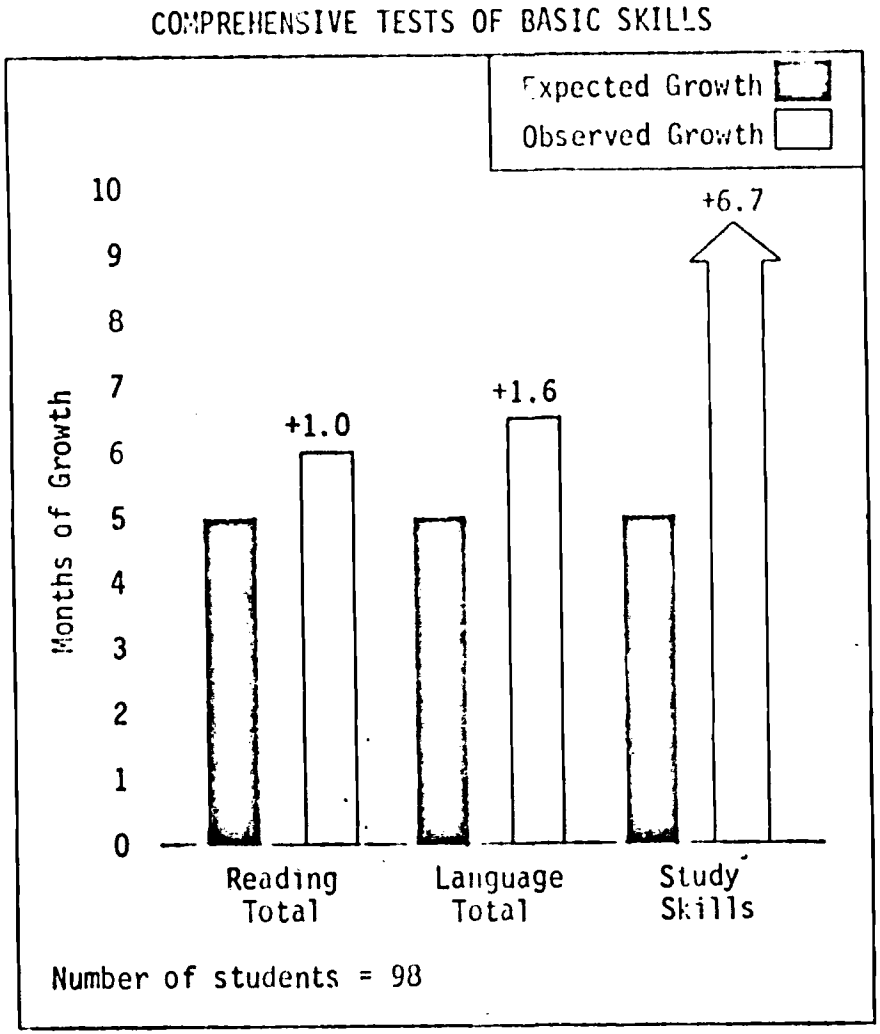
Grade 5: Standardized Pretest (Fall) and Posttest (Spring)
Expected Months of Growth[a] Compared to Observed Months of Growth



[a] Expected Months of Growth is based on the number of months between pre- and posttest administration dates.

FIGURE 5

Grade 6: Standardized Pretest (Fall) and Posttest (Spring)
Expected Months of Growth[a] Compared to Observed Months of Growth



[a] Expected Months of Growth is based on the number of months between pre- and posttest administration dates.

SUMMARY OF RESULTS FOR COMPONENT B: SPECIFIC STUDENT ACHIEVEMENT AT FOUR LEVELS OF *SERIES r*

This component of the verification provides evidence to confirm student learning by determining whether students demonstrate competency in specific focus skills at various levels through the analysis of the Macmillan *Series r* Post-Assessment Test results. Thus, given the student assessment tests developed by the authors of the *Series r* program, a student passing through each level should show achievement at the conclusion of instruction for a level.

For all four reading levels examined in this component, the students clearly showed mastery of the focus skills on the author-constructed Post-Assessment Tests.

SUMMARY OF RESULTS FOR COMPONENT C: SPECIFIC STUDENT GROWTH AND RETENTION ACROSS LEVELS OF *SERIES r*

The Macmillan *Series r* program has many materials designed to insure student growth and retention, which can be confirmed by administering tests specifically designed to document growth and retention across levels of *Series r*. The methodology used for this component of the verification offers an example of what can be done to try out materials for any number of *Series r* levels over a period of time with student groups of any size. The objective of this component was to determine students' ability to master and retain skills defined as "focus skills" at two grade levels

of the *Series r* program.

It is evident from the results of pre-, post-, and retention testing of two selected *Series r* levels for grades 3 and 4 that students tend to retain skills once learned.

A second conclusion points to the usefulness of having longitudinal information on student performance--i.e., data which show learning trends on a set of focus skills over time. These data are useful for:

1) identifying student readiness for successive *Series r* levels;
2) identifying focus skills which are unusually easy or difficult for large numbers of students before, after, and long after instruction;
3) determining which focus skills build best from one *Series r* level to another *Series r* level;
4) determining which focus skills are reinforced most by subsequent *Series r* levels; and
5) determining which focus skills need to be built upon or reinforced by subsequent levels.

SUMMARY RESULTS FROM COMPONENTS D AND E: STUDENT OPINION DATA AND TEACHER SATISFACTION DATA

The ultimate consumer of Macmillan's *Series r* materials is the student. If students enjoy the materials, show extended interest, and demonstrate substantial progress in acquiring reading skills, *Series r* will be

successful. Therefore, student opinions are as vital to learner verification as are teacher opinions. The first goal of this component was to gather student opinions and attitudes about the *Series r* reading program. The second goal was to gather information on teacher opinions and attitudes. The third goal was to determine how teachers are instituting the *Series r* program in the classroom by personal interview and classroom observation.

The following is a brief summary of the major findings of the opinion queries including mail questionnaires, interviews, and observations.

Students:

1) high interest in story content and artwork of students of all reading levels and grade levels (across grade levels at least two-thirds of all students answered that they liked all the stories);
2) high appeal of the workbook to many students (by Spring over 80% of the students at each of the six grade levels reported that they liked the workbook);
3) general lack of stories of primary interest to only boys or only girls.

Teachers:

1) satisfaction that students are enthusiastic about reading materials;
2) ease of lesson preparation;
3) impetus toward grouping for or individualizing reading along with a built-in management structure;

4) well-liked and often-used Teacher's Edition.

Highlights of the student and teacher responses are shown in Figures 6, 7 and 8.

SUMMARY OF ALL COMPONENTS

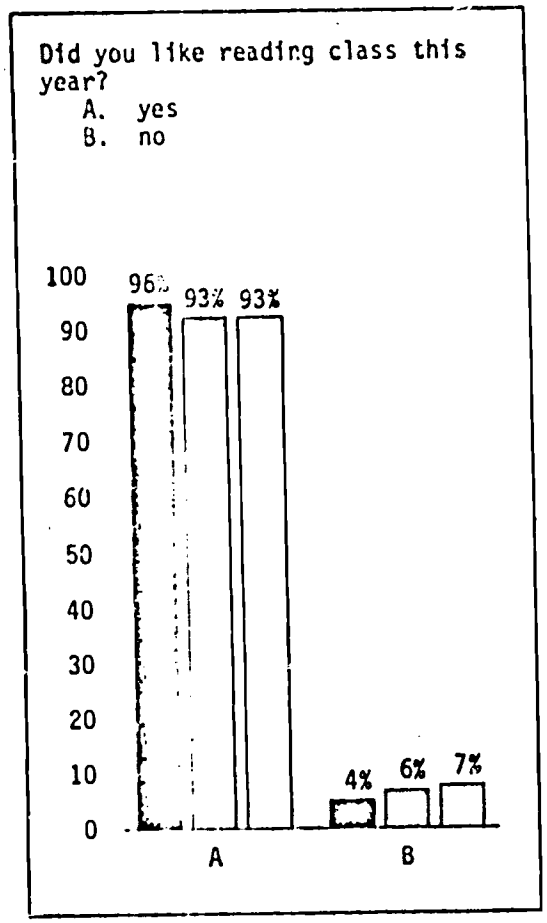
The vast majority (over 90%) of teachers and students taking part in the learner verification heartily endorsed *Series r* and enjoyed using the series. Results of the standardized test administrations in the Fall and Spring show that, at the very least, students tended to gain in language arts and reading skills at the expected rate in most subtest areas. In a wide variety of areas, depending on grade levels, students achieved above the expected rate.

The learner verification student samples represented a wide geographical range as well as a good mix of inner-city, suburban, and rural areas. The results clearly show that *Series r* was well liked by students and teachers of all areas and that student growth in reading and language arts was generally very good, regardless of geographic location or community type.

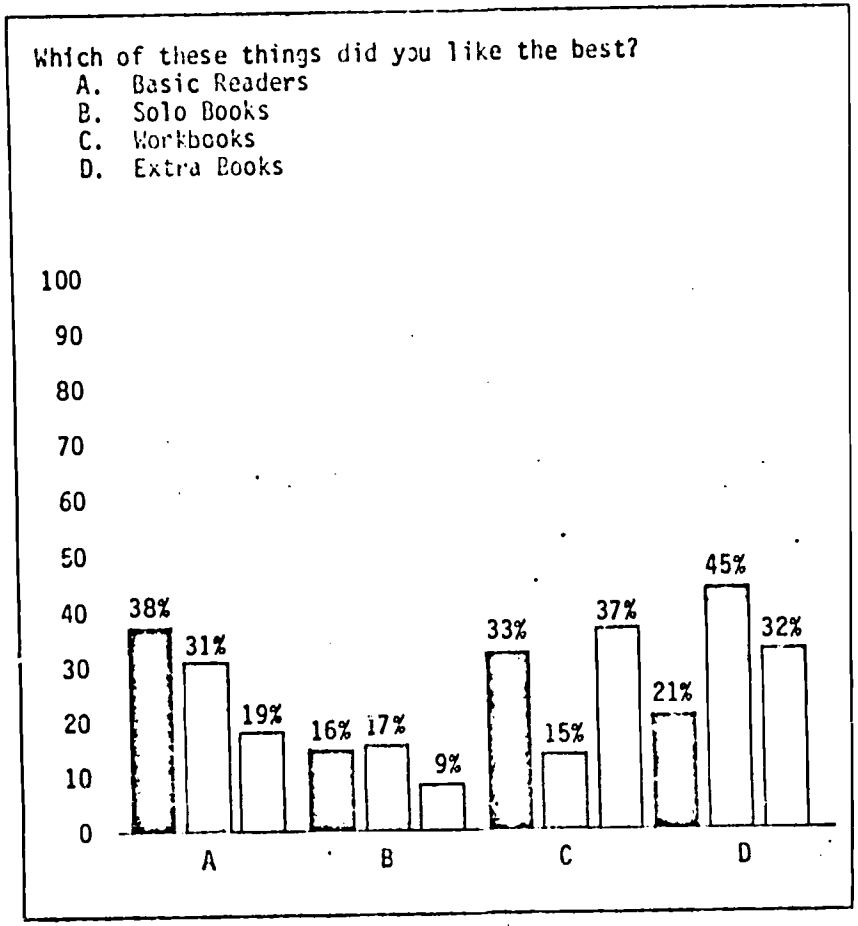
FIGURE 6

Selected Results of the Kindergarten-Grade 6 "Student Opinion Questionnaire" Spring Sampling
Percentage of Students in Each Community Type Choosing Each Response

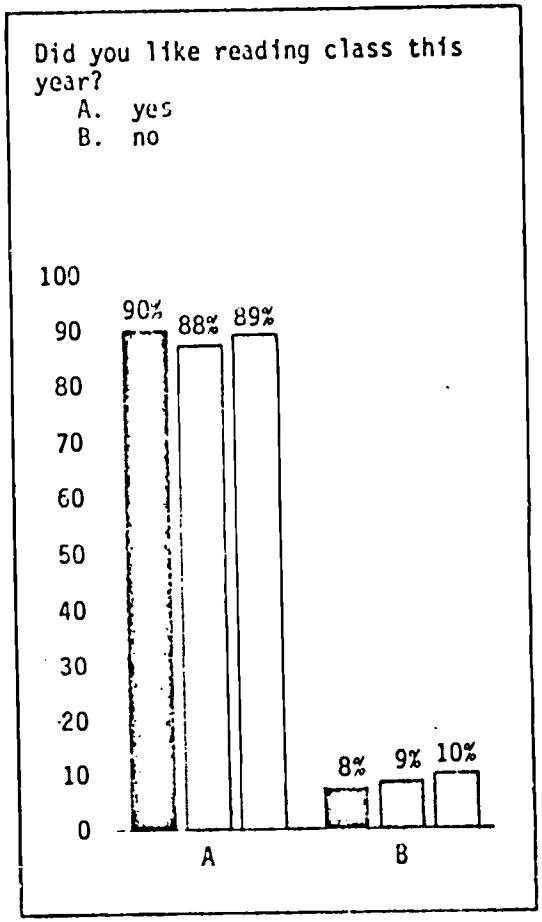
Kindergarten-Grade 3[a]



Grades 4-6[b]



Grades 4-6[b]



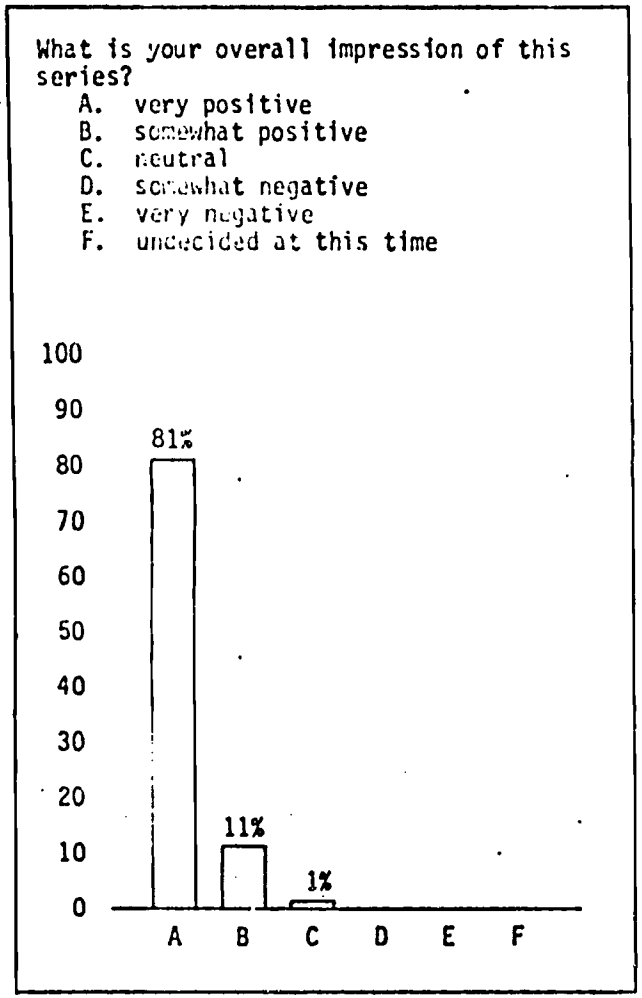
Inner-city
Suburban
Small Town/Rural

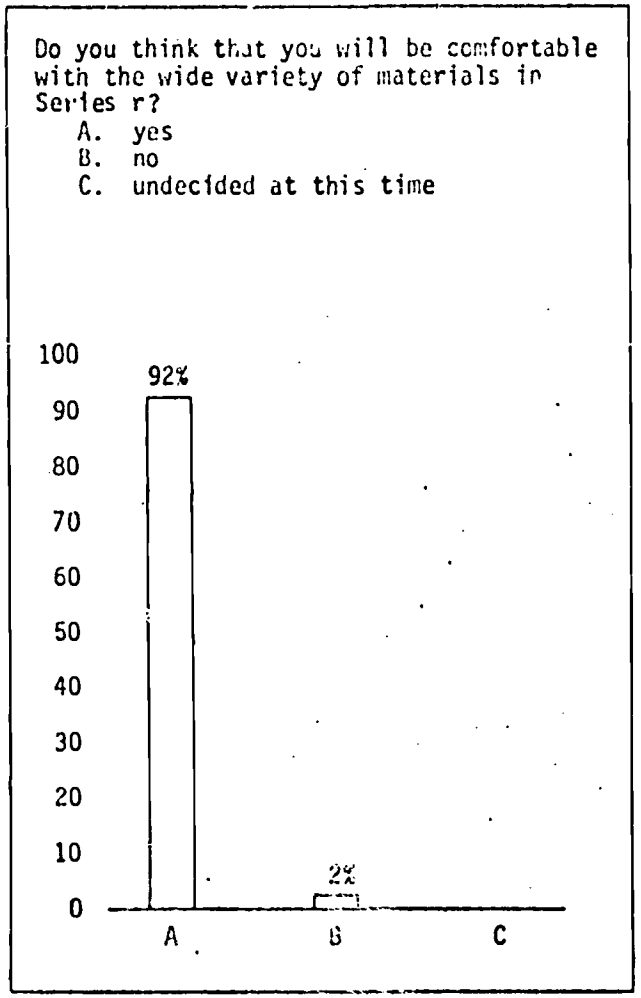
[a] Number of students responding = 1,378
[b] Number of students responding = 1,183

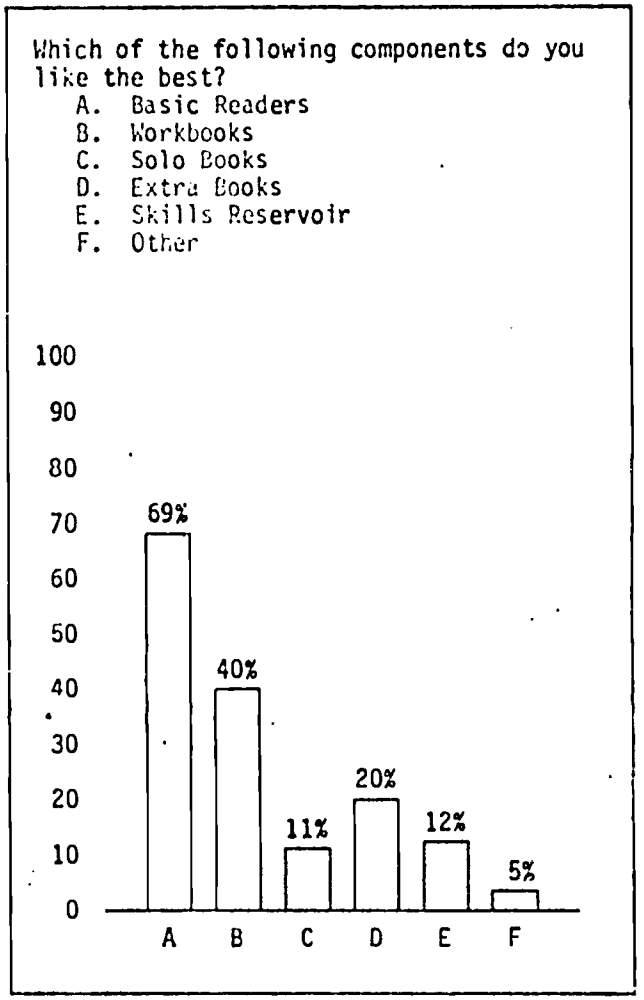
16

FIGURE 7

Selected Results of the "Teacher Opinion Questionnaire" Spring Sampling[a]
Percentage of Teachers Choosing Each Response





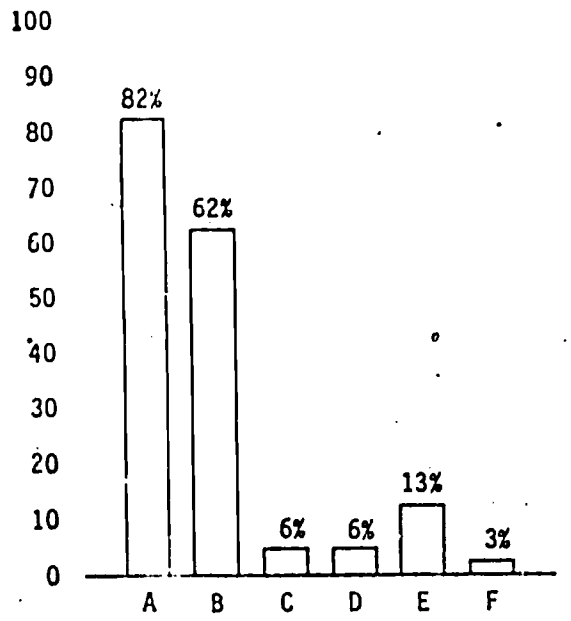


[a] Number of teachers responding = 108

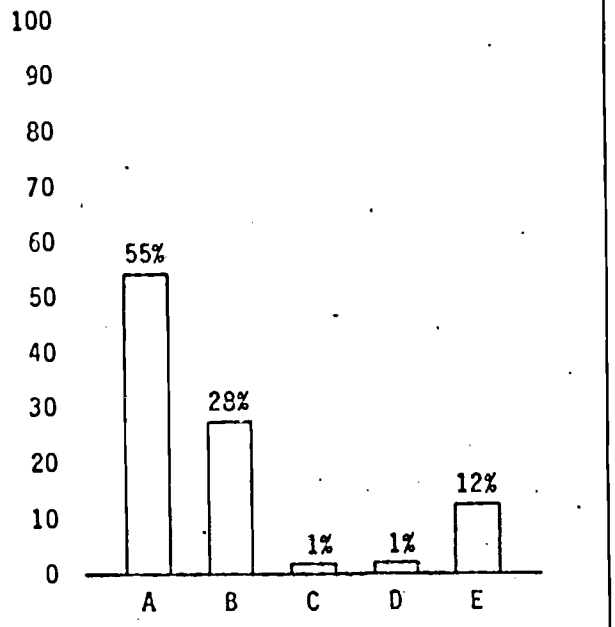
FIGURE 8

Selected Results of the "Teacher Opinion Questionnaire" Spring Sampling[a]
Percentage of Teachers Choosing Each Response

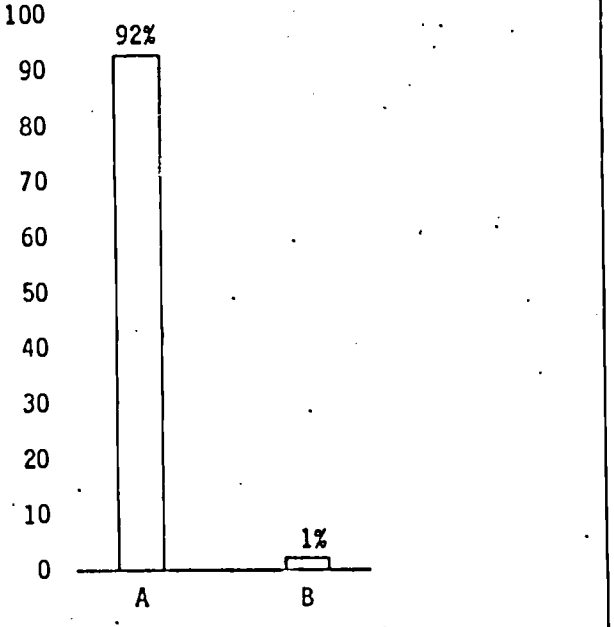
Which of the following components do you USE the MOST?
- A. Basic Readers
- B. Workbooks
- C. Solo Books
- D. Extra Books
- E. Skills Reservoir
- F. Other



How do you feel your students' reading success in this series will (or does) compare with years past?
- A. very successfully
- B. somewhat successfully
- C. somewhat unsuccessfully
- D. very unsuccessfully
- E. not sure at this time



Would you recommend Series r to another teacher?
- A. yes
- B. no



[a] Number of teachers responding = 108

ABSTRACT

A Successful Approach to Curriculum Evaluation/Learner Verification

RICHARD G. ALLAN, National Evaluation Systems, Inc.

WILLIAM P. GORTH, National Evaluation Systems, Inc.

PAUL D. PINSKY, National Evaluation Systems, Inc.

Curriculum evaluation in terms of learner verification is an increasingly interesting issue due to economic, legislative and marketplace pressures. National Evaluation Systems, Inc., has been in the forefront in applying existing technology to major curriculum development efforts and creating or applying new technological techniques to curriculum evaluation.

NES has developed curriculum evaluation techniques to support the development of an improved and marketable product. The evaluation does not interfere with delicate production schedules and has proven cost-effective for publishing companies (Macmillan, Harper and Row), state education departments (New York), and university-based curriculum developers (Social Studies Curriculum Development Center, University of Indiana).

A Successful Approach to Curriculum Evaluation/Learner Verification

RICHARD G. ALLAN, Ed.D.
National Evaluation Systems, Inc.

WILLIAM P. GORTH, Ph.D.
National Evaluation Systems, Inc.

PAUL D. PINSKY, Ph.D.
National Evaluation Systems, Inc.

Richard G. Allan, Ed.D.
National Evaluation Systems, Inc.
Post Office Box 226
Amherst, Massachusetts 01002

SUMMARY

Curriculum evaluation in terms of learner verification is an increasingly interesting issue due to economic, legislaqive and marketplace pressures. National Evaluation Systems, Inc. (NES) has been in the forefront in applying existing technology to major curriculum development efforts and creating or applying new technological techniques to curriculum evaluation.

NES has employed standardized tests, curriculum-based criterion-referenced tests, NES-produced criterion-referenced tests, teacher and student questionnaires, observation techniques, and interview forms to gather appropriate data. The data collected have included mastery, comparative, longitudinal, opinion, and achievement data. The achievement data have been provided for many subsets of the population, such as (1) region of the county, (2) type of school district, and (3) type of classroom organization.

An interesting aspect of the NES studies is that they were not conducted for well-financed experimental programs, but for publishing companies, state education departments, and university-based curriculum development efforts, where cost efficiency and benefit for the dollar are prime considerations. Curriculum development project directors agree the above has been achieved. We have conducted curriculum evaluations for basal reading and basal math programs, television programs, and others for companies/agencies such as the Macmillan Publishing Company, Harper and Row, Publishers, the New York State Education Department, and an NSF-funded project at the Social Studies Curriculum Development Center at the University of Indiana.

a) Objectives: Given a curriculum program, NES will:

1) identify information useful to the curriculum developers;
2) collect the information;
3) report the information in a timely and usable manner.

b) Perspective: Curriculum evaluation is quite often given lip service only. Major problems in the past have been the time required for conducting a curriculum evaluation and the cost benefit of such a study. We have been able to provide timely information for both product development and marketing purposes at a level deemed cost efficient by publishing companies and curriculum developers. We feel the techniques we are using for major curriculum evaluations represent a step forward for the general curriculum developer as sophisticated information is supplied with little delay to the curriculum-development process at an affordable cost.

c) Methodology: A systematic approach to collecting evaluation data is used.

1) Identify the instructional materials for learner verification.
2) Decide upon scope of learner verification.
3) Allocate resources for conducting the learner verification.
4) Select test sites.
5) Set up data collection schedule.
6) Prepare objectives and items.
7) Produce tests.
8) Produce questionnaires, checklists, interviews.
9) Collect data.
10) Score, process, and tabulate the data.
11) Analyze the data.
12) Prepare learner verification reports.

d) Data source: The data sources are drawn from among (1) students, (2) teachers, (3) educational specialists, and (4) content specialists.

e) Results and conclusions: The results indicate that curriculum evaluation is a viable process that can contribute to an improved and marketable product for curriculum development projects. Also, the evaluation does not interfere with the developmental timetable or be so costly as to be prohibitive.

f) Educational importance of the study: We believe our experience in applying existing curriculum evaluation techniques and in developing new curriculum development techniques has proved the feasibility of curriculum evaluation/learner verification if appropriately applied. Our experience has shown that efforts to comply with new state laws (California, Texas, Florida, etc.) rather than resistance to the laws (see comments appended to EPIE LVR report) is a sensible and productive avenue of pursuit.

Some of the more interesting data we produce, not usually available in a major curriculum evaluation, are shown below. This study was conducted for a major New York publisher for a new basal mathematics series. The test was conducted on 1,500 students to collect curriculum development data in 1973. A follow-up study is currently under way to collect data nationwide on a larger sample of students.

The data represent three units at the third-grade level. All data are longitudinal (i.e., objectives for all three units were tested at each of four points in time). Chart 1 shows the success of various groupings of students before instruction (PRE), after instruction on Unit 1 (U1), after instruction on Unit 2 (U2), and after instruction on Unit 3 (U3). Chart 2 shows three levels of breakdown for all objectives in all three units, the objectives in each of the three units, and selected objectives within each of the units. Chart 3 shows a comparison between results on the curriculum-based END OF UNIT TEST and the more sensitive longitudinal data.

Math–3 Units (3rd Grade)

	PRE	U1	U2	U3
All Students on All O's	31	53	58	75
Urban Students on All O's	26	50	56	66
Suburban Students on All O's	36	54	66	80
Rural Students on All O's	30	54	67	76
Inner-City Students on All O's	13	35	54	68
Slow	21	51	58	67
Average	33	54	64	77
Fast	47	65	70	78
Heterogeneous	29	50	62	79

CHART 1

Math–3 Units (3rd Grade)

	PRE	U1	U2	U3
All O's	31	53	58	75
Unit 1 Numeration	28	71	72	74
Unit 2 Addition	36	52	76	76
Unit 3 Subtraction	22	29	37	70
Objective 101	12	80	80	83
Objective 102	1	48	48	50
Objective 108	35	60	59	65
Objective 105	36	86	86	89
Objective 201	46	56	86	85
Objective 202	25	34	71	67
Objective 203	49	61	86	87
Objective 204	21	25	63	66
Objective 303	32	43	55	85
Objective 305	22	24	31	63
Objective 307	4	5	9	57

CHART 2

Math–3 Units (3rd Grade)

OBJ	PRE	U1	U2	U3	END OF UNIT TEST
104	52	89	93	93	91
	35	91	90	90	91
106	62	92	89	93	96
109	25	44	65	72	93
	43	94	84	86	37
202	37	59	89	76	93
302	16	16	20	70	93
	12	19	17	75	94

CHART 3