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ABSTRACT

This final report summarizes Year 11 quality check activities for the National Assessment of Educational Progress (NAEP). A probability sample of 40 schools was selected for quality check purposes from all three age classes. One regular school was selected for each District Supervisor at each Age Class. Quality check activities were conducted in these schools during the period of October 1979 through May 1980 by staff from the Research Triangle Institute (RTI). All checks were conducted with the consent and cooperation of the schools involved. The sample design and other sampling activities associated with the Year 11 quality check are documented in section 2 of this report. The procedures used to implement the quality check are dicussed in section 3. The results of the quality check are reported in section 4. Conclusions and recommendations for future quality checks are presented in section 5. Primary type of information provided by report: Procedures (Field Administration). (Author/BW)

RESEARCH TRIANGLE INSTITUTE

Doc Coulter

NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

RTI/1967/00-01F

FINAL REPORT OF YEAR 11
IN-SCHOOL QUALITY CHECK ACTIVITIES

October 1980

RESEARCH TRIANGLE PARK, NORTH CAROLINA 27709

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The work upon which this publication is based was performed pursuant to Grant NIE-G-80-0003 of the National Institute of Education. It does not, however, necessarily reflect the views of that agency.

1. INTRODUCTION

This final report summarizes Year 11 quality check activities for the National Assessment of Educational Progress (NAEP). A probability sample of 40 schools was selected for quality check purposes from all three age classes. One regular school was selected for each District Supervisor at each Age Class. Quality check activities were conducted in these schools during the period of October 1979 through May 1980 by staff from the Research Triangle Institute (RTI). All checks were conducted with the consent and cooperation of the schools involved.

The sample design and other sampling activities associated with the Year 11 quality check are documented in section 2 of this report. The procedures used to implement the quality check are discussed in section 3. The results of the quality check are reported in section 4. Conclusions and recommendations for future quality checks are presented in section 5.

2. SAMPLE SELECTION

2.1 School Sample Selection

The Year 11 quality check school sample was designed to meet the following specifications:

(A) At least one regular (nonstandby) school was selected per age class for each District Supervisor;

(B) A ratio estimate of the completeness of the student sampling frame could be obtained across all age classes;

(C) An estimate of the variance of the ratio estimate in item B above could be obtained.

Table 2-1 summarizes the method of sample selection. The frame of regular schools was stratified by District Supervisor assignment, yielding 13 strata. Within each District Supervisor stratum, schools were further stratified by age class. Within each District Supervisor by age class stratum, the regular (nonstandby) schools comprised the sampling units, with two exceptions. First, each standby school located within 20 miles of a regular school was grouped with the regular school to comprise one sampling unit. Second, split and modular session schools were grouped with the originally selected school as one sampling unit. The number of sampling units in each stratum is specified in table 2-1. One sampling unit was selected per age class for each District Supervisor stratum. The units were chosen with equal probabilities within strata. By weighting the data for each sample unit by the inverse of its selection probability, the completeness of the student frame may be estimated across all age classes. An estimate of the variance of this ratio estimate may be obtained by taking successive differences between sampling units within District Supervisor strata.

Table 2-1. Quality check sample selection summary

District supervisor stratum number	Age class						Total	
	9-year-olds		13-year-olds		17-year-olds			
	Number of sampling units	Number of selected units	Number of sampling units	Number of selected units	Number of sampling units	Number of selected units	Number of sampling units	Number of selected units
1	33	1	37	1*	26	1	96	3
2	50	1	43	1	32	1	125	3
3	40	1	35	1	25	1	100	3
4	38	1	39	1	30	1	107	3
5	39	1	34	1	25	1	98	3
6	31	1	29	1	28	1	88	3
7	47	1	40	1	33	1	120	3
8	43	1	34	1	29	1	106	3
9	39	1	34	1	23	1	96	3
10	47	1	44	1	40	1	131	3
11	53	1	47	1	46	1	146	3
12	39	1	37	1	27	1	103	3
13	40	1	29	1	31	1	100	3
TOTAL	539	13	482	13	395	13	1416	39

* Comprised of one regular school and one standby school.

By these procedures, a probability sample of 40 schools (39 regular schools and one standby school) was selected. A list of these schools is included as Appendix A. Table 2-2 below summarizes the sample by region and age class.

2.2 Student Sample Selection

A random sample of packages in each quality check school was selected. If five or fewer administrations were assigned, all packages were included. If the number of assigned administrations was greater than five, these administrations were subsampled to five using simple random sampling. Three respondents from each of the packages in the sample were selected using simple random sampling techniques. The students were interviewed to insure that they had taken packages.

A sequential sampling procedure was used to verify that the student sample in each school had been properly selected. A table like the one shown in figure 2-1 was provided for each school. The sequential sampling process was as follows:

(A) The first five in-range random numbers were examined.

Table 2-2: Number of quality check schools by region and age class

Region	9-year-olds	13-year-olds	17-year-olds	Total
Northeast	3	5	3	11
Southeast	3	2	4	9
Central	4	4*	3	11*
West	3	3	3	9
Total	13	14*	13	40*

* Includes one standby school.

SAMPLE SELECTION CHECKING PROCEDURES

PSU Number _____

School Number _____

Directions: Examine sample selection, package assignment, and transcribing procedures for first 5 selected respondents. Document each type of error in space provided below. Record number of errors on first line of "Cumulated Errors" column. If the number of cumulated errors is less than or equal to corresponding acceptance number, then stop. Otherwise, examine the method used to select the next 5 individuals. Document the types of errors. Record number of cumulated errors. If the number of cumulated errors is less than or equal to the corresponding acceptance number, then stop. Otherwise, examine the method used to select the next 5 individuals, etc. Stop, after method used to select at most 20 respondents has been examined.

Cumulated sample size	Cumulated errors	Acceptance number
5		0
10		2
15		4
20		6

Types of Errors

Figure 2-1. Quality check form to assist in sequential sampling process

(B) The number of incorrectly used random numbers out of the five was recorded in the cumulated errors column (column 2).

(C) If this number was zero, it was not necessary to check any more random numbers (i.e., the sampling process was assumed to be correct). If the number was one or greater, the types of errors were documented and the next five random numbers were examined.

(D) The cumulative number of errors in the first 10 random numbers was recorded in column 2. As before, if the total number of errors was less than or equal to the number specified in column 3 (Acceptance number), the sample was assumed to be correct, and no further checks were made; if the total number of errors was greater than the number specified in column 3, errors were documented and the next five random numbers were examined.

(E) This process was continued until a decision was made as to whether the sample was acceptable or unacceptable. At most, 20 random numbers were examined. If six or fewer incorrectly used random numbers were identified among the 20, the sample was acceptable. If more than six incorrectly used random numbers were identified, the sample was unacceptable; in either case, all errors were documented.

Table 2-3 specifies the probabilities of accepting or rejecting the sample after examining each set of five random numbers, assuming that the sample has been correctly selected 90 and 90 percent of the time.

Table 2-3: Probabilities of accepting and rejecting sample after examining each set of five random numbers

Cumulated sample size	Acceptance number	Probability of accepting sample		Probability of rejecting sample	
		p = .50	p = .90	p = .50	p = .90
5	0	0.0312	0.5905	0.0000	0.0000
10	2	0.0547	0.9298	0.0000	0.0000
15	4	0.0593	0.9873	0.0000	0.0000
20	6	0.0577	0.9976	0.9423	0.0024

2.3 Verifying a Subsample of the Student List

In quality check schools, the student list was examined for completeness. This examination was performed by preparing a complete student list from the school records and comparing the list with the one prepared by the school. In some cases the most complete student list was the one prepared by the school. In other cases a better list was prepared during the quality check.

If the school contained many eligibles, a check for completeness was time consuming. When there were more than 200 eligibles in a school, the option of selecting a subsample of 200 was permitted. An alphabetic segment was determined and recorded (see Appendix B for quality check forms). The check was performed only for students in the alphabetic sector. The alphabetic segments were determined using a procedure developed by Piper and Chromy [1]. Table 2-4 lists the alphabetic segments which were used to achieve various sampling rates.

Table 2-4. Approximately equal-sized alphabetic segments

Alphabetic segment number	Approximate proportion of names contained in each segment							
	1/36	1/18	1/12	1/9	1/6	1/3	1/4	1/2
1	AAA-ARM							
2	ARN-BAR	AAA-BAR						
3	BAS-BLZ		AAA-BLZ					
4	BMA-BRO	BAS-BRO		AAA-BRO				
5	BRP-CAQ							
6	CAR-CNZ	BRP-CNZ	BMA-CNZ		AAA-CNZ	AAA-GZZ		
7	COA-CRD							
8	CRE-DED	CPA-DED		BRP-DED				
9	DEE-DZZ		COA-DZZ				AAA-DZZ	
10	EAA-FEZ	DEE-FEZ						
11	FFA-GEN							
12	GEO-GZZ	FFA-GZZ	EAA-GZZ	DEE-GZZ	COA-GZZ			VAA-KZZ
13	HAA-HAX							
14	HAY-HOK	HAA-HOK						
15	HOL-HZZ		HAA-HZZ					
16	IAA-JOH	HOL-JOH		HAA-JOH				
17	JOI-KEK							
18	KEL-KZZ	JOI-KZZ	IAA-KZZ		HAA-KZZ	HAA-OZZ	EAA-KZZ	
19	LAA-LIS							
20	LIT-MAR	LAA-MAR		JOI-MAR				
21	MAS-MDZ		LAA-MDZ					
22	MEA-MON	MAS-MON						
23	MOQ-NAX							
24	NAY-OZZ	MEA-OZZ	MEA-OZZ	MAS-OZZ	LAA-OZZ			
25	PAA-PIN							
26	PIO-RAX	PAA-RAX						
27	RAY-RZZ		PAA-RZZ				LAA-RZZ	LAA-ZZZ
28	SAA-SEA	RAY-SEA		PAA-SEA				
29	SEB-SIQ							
30	SIR-SNZ	SEB-SNZ	SAA-SNZ		PAA-SNZ	PAA-ZZZ		
31	SOA-STQ							
32	STR-THN	SOA-THN		SEB-THN				
33	THO-UZZ		SOA-UZZ					
34	VAA-WER	THO-WER						
35	WES-WIL							
36	WIM-ZZZ	WES-ZZZ	VAA-ZZZ	THO-ZZZ	SOA-ZZZ		SAA-ZZZ	

3. QUALITY CHECK PROCEDURES

A quality check was conducted during the period of October 1979 through May 1980. The check was designed to determine the quality of the Year 11 assessment data collected by the National Assessment in-school field staff. The quality check tasks conducted were largely a review of the mechanical and clerical performances of school personnel, District Supervisors, and Exercise Administrators involved with assessment.

The design of the Year 11 quality check was derived from discussions between members of the National Assessment of Educational Progress (NAEP) staff, RTI's National Assessment Administration Center (NAAC), and RTI's Sampling Research and Design Center (SRDC). The check was implemented by the National Field Director, Regional Supervisors, and Administrative Coordinator from RTI's National Assessment Administration Center. All checks were conducted with the consent and cooperation of the schools involved.

3.1 Sample

A probability sample of 40 schools was selected by RTI's Sampling Research and Design Center. The sample included schools from each region of the country and one school per age class from each District Supervisor's territory. The sample design is documented in section 2.1.

The sample design for the quality check allows inferences to be made concerning the nationwide quality of work done in Year 11 assessment. The sample was not designed to yield information on the performances of individual District Supervisors nor was it designed to yield this information by region of the country.

3.2 Quality Check Tasks

Several tasks were performed in each of the sample schools. Each school was contacted, and the tasks were described to the principal and/or assessment coordinator. Permission was given for the quality check to be performed in all schools. The attitude demonstrated by the majority of school officials contacted was cooperative.

After arriving at the school, the school principal or coordinator was asked to provide the Student Listing Form (SLF) Storage Envelope containing the SLF and the Administration Schedule(s) left by the District Supervisor. The purpose of this request was to permit the sampling procedures performed by the District Supervisor to be checked. It was also explained that a sample of three randomly selected students who had participated in assessment would be interviewed from at most five of the regular group sessions assigned to the school. The students were selected directly from the Administration Schedules using a random number table (see Assessment Verification forms in Appendix B).

After the above tasks were completed, the school official was requested to provide a central record of all students enrolled in the school that contained birthdate information. The record was used to determine the total number of eligible students enrolled in the school. The total count found during the quality check was entered on the Total Eligibles form (see Appendix B). This number was compared with the number of eligibles listed on the School Worksheet as well as the number found on the Student Listing Form. This task was designed to check the completeness of the reporting of eligible students.

4. RESULTS OF SPECIFIC QUALITY CHECK TASKS

Specific Year 11 quality check tasks included verification of assessment respondents, determination of the completeness of the student list, and verification of the student sampling procedure.

4.1 Assessment Verification

Students were interviewed in sample schools where school officials granted permission. The purposes of the interview were to verify the student's participation and to verify that correct procedures had been followed by the DS or EA. The Assessment Verification form (see Appendix B) was administered to a maximum of three students per group. A random sample of the regular group sessions assigned to a school was preselected by RTI's Sampling Research and Design Center. If five or fewer sessions were assigned, all packages were included. If the number of sessions was greater than five, the sessions were subsampled to five using simple random sampling. All nonrespondent followup sessions assigned to a school were verified.

Selected student names had been previously numbered on the Group Administration Schedule for each session. Using this schedule and a random number table, three students per package were selected to be interviewed. If two or all three of the students selected for verification of a session were unavailable because of absence from school, withdrawal from school, or inability to leave class, replacements for those students were selected.

Of the 40 quality check schools, assessment verification was conducted in 37 schools. In one 9-year-old school, verification of 2nd graders was not conducted due to objections of the school superintendent. The principal of one 13-year-old school would not allow respondent verification.

One school at the 17-year-old age level would not allow respondent verification because student accessibility would be difficult due to it being the last day of school. In total, 386 students were interviewed in the quality check sample. This number included 115 9-year-olds, 124 13-year-olds, and 147 17-year-olds.

The results of the assessment verification are summarized by age class in table 4-1. All students interviewed remembered participating in National Assessment.

One student at age class 2 said the test administrator had left the testing room for about three minutes. Another student at age class 2 stated the test administrator left the testing room twice for about five minutes each time. Three 17-year-old students reported that package aministration was begun by the school coordinator until the EA took over 10 minutes into the session. Another age class 3 student responded that the test administrator was not always present during testing but did not give any explanation for the absence.

In response to question 3, some students had observed principals, teachers, counselors, or librarians in the room during assessment at age class 2 and 3. These individuals were monitoring or observing sessions and no irregularities were detected.

One student at each age level felt the instructions were unclear. One student was 10 minutes late and entered from the point at which the tape was playing. Two other students reported that the tape was hard for them to hear. All other students responded that the test instructions were clear.

Almost all students interviewed remembered the Background Questions being administered. Four 13-year-olds and one 17-year-old did not

Table 4.1 Assessment respondent verification

Question	Answer	9-year-olds		13-year-olds		17-year-olds	
1. Do you remember participating in National Assessment?	Yes	115	(100%)	124	(100%)	147	(100%)
	No	0	(0%)	0	(0%)	0	(0%)
	Total	115	(100%)	124	(100%)	147	(100%)
2. Was a test administrator present throughout the test?	Yes	115	(100%)	122	(98%)	145	(99%)
	No	0	(0%)	2	(2%)	2	(1%)
	Don't Know	0	(0%)	0	(0%)	0	(0%)
	Total	115	(100%)	124	(100%)	147	(100%)
3. Were there any teachers or a principal in the room during the testing?	Yes	0	(0%)	3	(3%)	20	(14%)
	No	115	(100%)	121	(97%)	127	(86%)
	Don't Know	0	(0%)	0	(0%)	0	(0%)
	Total	115	(100%)	124	(100%)	147	(100%)
4. Were the instructions clear so you knew what to do?	Yes	114	(99%)	123	(99%)	146	(99%)
	No	1	(1%)	1	(1%)	1	(1%)
	Total	115	(100%)	124	(100%)	147	(100%)
5. Were you asked questions such as, "Does your family get a newspaper regularly?	Yes	115	(100%)	121	(97%)	146	(99%)
	No	0	(0%)	1	(1%)	1	(1%)
	Don't Know	0	(0%)	2	(2%)	0	(0%)
	Total	115	(100%)	124	(100%)	147	(100%)
6. Could you hear the tape recorder from where you were sitting?	Yes	112	(97%)	119	(96%)	130	(88%)
	No	3	(3%)	5	(4%)	17	(12%)
	Total	115	(100%)	124	(100%)	147	(100%)
7. Did the person conducting the test help you with any questions while the tape was playing?	Yes	0	(0%)	0	(0%)	5	(3%)
	No	115	(100%)	124	(100%)	142	(97%)
	Total	115	(100%)	124	(100%)	147	(100%)
8. Approximately how many students took the test with you?	Acceptable response	106	(92%)	122	(98%)	141	(96%)
	Unacceptable response	2	(2%)	0	(0%)	3	(2%)
	Don't Know	7	(6%)	2	(2%)	3	(2%)
	Total	115	(100%)	124	(100%)	147	(100%)

remember. Most students interviewed could hear the tape. Those who could not hear encountered audibility problems with the tape (i.e., volume too low or bass too loud). The tape was not used for one 17-year-old session due to tape malfunctions.

The students who responded that the person conducting the test helped them while the tape was playing noted that the help was always explanatory and that no specific questions were answered. Seven 9-year-olds, two 13-year-olds, and three 17-year-olds did not remember how many students took the test with them. Two 9-year-olds and three 17-year-olds gave unacceptable responses. All other students interviewed gave acceptable responses.

4.2 Count of Eligibles

4.2.1 Description of the Data Collected

The eligibles in schools selected for the quality check were enumerated again. The second count of eligibles was compared with the original count obtained. The data from this check are enumerated in table 4-2. The PSU and school number are specified in columns 1 and 2, respectively. The number of eligibles found in the quality check is noted in the third column (column A). The number of eligibles recorded on the School Worksheet is noted in column B. The difference, A-B, is reported in the following column. The percent difference between the number of eligibles found in the quality check and the number recorded on the School Worksheet is reported as:

$$\frac{A-B}{A} \%$$

This percent figure is reported in column 6. The last column of the table provides a brief explanation for large differences.

PAGES 15 - 17 TABLE 4-2

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4.2.2 Verification Results of Eligibility Counts

It was assumed, since the age class eligibles were checked between four and six weeks after the assessment period, there would be very few students leaving the school during this period. It was also assumed that the number entering would be approximately the same; thus, no adjustment was made for attrition.

A ratio estimate of the proportion of students reported in Year 11 sample schools was 0.984. The standard error of this estimate is .0046. The procedure by which this estimate was obtained is documented in Appendix C. The 95 percent confidence interval for the estimated proportion based on 25 degrees of freedom (Student's t = 2.060) gave

$$.975 \leq \hat{R} \leq 0.993 .$$

In the preceding inequality, the estimated proportion of students reported in Year 11 sample schools was noted by $\hat{R}$. The completeness of the 9-, 13-, and 17-year-old lists for three earlier years is compared in table 4-3.

Table 4-4 was prepared by tabulating the number of large errors in SLF preparation by region. Large errors were defined as those where the absolute value of the percent difference in eligibles was greater than 5 percent. A chi-square value of 0.68 was calculated and compared with the tabular value of 7.81 (with 3 degrees of freedom). It may be assumed with 95 percent confidence that no region has more large errors than would be expected by chance.

4.3 Verification of Student Sampling Procedure

The form in figure 2-1 and procedure described in section 2-2 were used to verify that the student sample was correctly selected in each quality check school. A few errors in the method of student sample selection were disclosed by the quality check procedures. In one school 70

Table 4-3. Comparison of completeness of 9-, 13-, and 17-year-old student lists

	9-year-olds	13-year-olds	17-year-olds
Year of check	Year 04	Year 06	Year 07
Number of DSs checked	28	28	12
Number of schools in sample	33	39	41
Completeness of student frame	.975	.947	.986
Number of students checked	2,356	6,450	9,556
Estimated standard error	.007	.007	.033
Number of school units used to estimate standard error	5	5	10

Table 4-4. Large errors in SLF preparation tabulated by region

Region	Number of schools with percent difference greater than 5%	Total number of schools
Northeast	2	11
Southeast	2	9
Central	1	11
West	2	9
Total	7	40

vocational-technical students were classified as ineligibles by the District Supervisor. The error was corrected in RTI's records and the DS was informed of the departure from specifications. Another DS used an incorrect subsampling interval to compute total eligibles. This error was also corrected in RTI's records and the DS informed.

Clerical errors in sample selection were noted in the following schools:

PSU	School	PSU	School
[redacted]		[redacted]	

5. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Data were collected from a probability sample of Year 11 schools to determine accuracy of transfer of SLF data, adherence by field staff to package administration specifications and sampling procedures, and completeness of student lists.

The following general conclusions are offered:

(A) No serious administrative errors were revealed by the quality check.

(B) A ratio estimate of the proportion of students reported in sample schools for Year 11 was 0.984. The standard error associated with this estimate was .0046.

The following recommendations are offered:

(A) It should be made clear to the DSs that any deviation from prescribed procedures without the authorization of their supervisor may result in termination.

(B) Quality checks should continue to be performed by RTI's National Assessment Administration Center.

(C) Finally, a probability sample of schools at all three age classes should be selected for future quality checks. It is also recommended that the sample be designed to meet the following requirements:

1. At least one school supervised by each District Supervisor at each age class should be included in the quality check sample;

2. A ratio estimate of the completeness of the student sampling frame should be obtained across all age classes;

3. Estimates of the variance of the ratio estimates in item 2 above can be obtained.

Within each selected school, the following items should be checked:

1. Completeness of the student sampling frame;

2. Verification that the student sample was properly selected;

3. Selection of a random sample of the regular and followup packages in each quality check school and selection of three respondents for each of these packages for two purposes;

a. Verification that these selected students did, in fact, take packages;

b. Verification that grade, sex, and birthdate information was properly transcribed from Administration Schedule to package for each of these students.

REFERENCES

[1] Piper, Lanny L. and James R. Chromy. "Design Effects for Alphabetic Cluster Samples" 1976 Proceedings of the Social Statistics Section of the American Statistical Association, 1976.

APPENDIX A

Year 11 Quality Check School Sample

APPENDIX A PAGES A-2 THRU A-7

OMMITTED DUE TO CONFIDENTIALITY

APPENDIX B

Quality Check Forms

QUALITY CHECK

YEAR 11

-3 _____ PSU NUMBER _____ SCHOOL NUMBER _____

AME OF SCHOOL: _____

ADDRESS: _____

_____

PHONE NUMBER: _____

RINCIPAL/COORDINATOR: _____

ELEPHONE CONTACT:

1. Explain purpose of Quality Check.
2. Estimate length of time necessary for check.
3. Insure SLF storage envelope is available.
4. Arrange an appointment for Quality Check.

PPOINTMENT SET FOR: _____

COMMENTS: _____

Does your family get a newspaper regularly?

○ Yes ○ No ○ I don't know.

Does your family get any magazines regularly?

○ Yes ○ No ○ I don't know.

Are there more than 25 books in your home?

○ Yes ○ No ○ I don't know.

Is there an encyclopedia in your home?

○ Yes ○ No ○ I don't know.

How much school did your father complete?
(FILL IN THE ONE OVAL which best shows how much school your father completed.)

○ Did not complete the 8th grade

○ Completed the 8th grade, but did not go to high school

○ Went to high school, but did not graduate from high school

○ Graduated from high school

○ Some education after graduation from high school

○ I don't know.

How much school did your mother complete?
(FILL IN THE ONE OVAL which best shows how much school your mother completed.)

○ Did not complete the 8th grade.

○ Completed the 8th grade, but did not go to high school

○ Went to high school, but did not graduate from high school

○ Graduated from high school

○ Some education after graduation from high school

○ I don't know.

Where did you live on your ninth birthday?

○ In the United States (Please specify the state or territory.)

_____

○ Outside of the United States (Please specify the country.)

_____

○ don't know.

DO NOT WRITE IN THE AREA BELOW.

AL	○
AK	○
AZ	○
AR	○
CA	○
CO	○
CT	○
DE	○
FL	○
GA	○
HI	○
ID	○
IL	○
IN	○
IA	○
KS	○
KY	○
LA	○
ME	○
MD	○
MA	○
MI	○
MN	○
MS	○
MO	○
MT	○
NB	○
NV	○
NH	○
NJ	○
NM	○
NY	○
NC	○
ND	○
OH	○
OK	○
OR	○
PA	○
RI	○
SC	○
SD	○
TN	○
TX	○
UT	○
VT	○
VA	○
WA	○
WV	○
WI	○
WY	○
DC	○
OT	○
BL	○
OC	○
BL	○
n.c.	○
ref.	○
s.r.	○

OMB No. 051-R-1194
Approval Expires 9/30/81

NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS
Quality Check
Year 13 Age Class

Assessment Verification

PSU No. _____ School No. _____ Package No. _____ Supervisor _____ Date _____

If a student is absent from school on day of Quality Check select an additional student using the random number table above.

1. Do you remember participating in National Assessment? (If No, describe assessment briefly and probe).

   Comments: (1) _____

   (2) _____

   (3) _____

(1) ID NO.		(2) ID NO.		(3) ID NO.	
Yes	No	Yes	No	Yes	No

2. Was a test administrator present throughout the test?

   Comments: (1) _____

   (2) _____

   (3) _____

(1)		(2)		(3)	
Yes	No	Yes	No	Yes	No

3. Were there any teachers or a principal in the room during the testing?

   Comments: (1) _____

   (2) _____

   (3) _____

(1)		(2)		(3)	
Yes	No	Yes	No	Yes	No

4. Were the instructions clear so you knew what to do?

Comments: (1) _____

(2) _____

(3) _____

(1)		(2)		(3)	
Yes	No	Yes	No	Yes	No

5. Were you asked questions such as, Does your family get a newspaper regularly? (Show copy of Background Questions).

Comments: (1) _____

(2) _____

(3) _____

(1)		(2)		(3)	
Yes	No	Yes	No	Yes	No

6. Could you hear the tape recorder from where you were sitting?

Comments: (1) _____

(2) _____

(3) _____

(1)		(2)		(3)	
Yes	No	Yes	No	Yes	No

7. Did the person conducting the test help you with any questions while the tape was playing?

Comments: (1) _____

(2) _____

(3) _____

(1)		(2)		(3)	
Yes	No	Yes	No	Yes	No

8. Approximately how many students took the test with you?

Comments: (1) _____

(2) _____

(3) _____

(1)	(2)	(3)

SAMPLE SELECTION CHECKING PROCEDURES

PSU NO. _____

SCHOOL NO. _____

Directions: Examine sample selection, package assignment, and transcribing procedures for first 5 selected respondents. Document each type of error in space provided below. Record number of errors on first line of "Cumulated Errors" column. If the number of cumulated errors is less than or equal to the corresponding acceptance number, then stop. Otherwise, examine the method used to select the next 5 individuals. Document the types of errors. Record number of cumulated errors. If the number of cumulated errors is less than or equal to the corresponding acceptance number, then stop. Otherwise, examine the method used to select the next 5 individuals, etc. Stop, after method used to select at most 20 respondents has been examined.

Cumulated Sample Size	Cumulated Errors	Acceptance Number
5		0
10		2
15		4
20		6

Types of Errors

FOR CENTRAL STAFF USE ONLY:

Does sample appear to have been selected properly?

Approval Expires 9/30/81

TOTAL ELIGIBLES

PSU NO. _____

SCHOOL NO. _____

1. My information states the SLFs were completed from (source) _____ _____. Can you tell me briefly the procedures used in completing the SLFs?

2. My information states that the enrollment in your school at the beginning of the year was as follows:

1	2	3	4	5	6	7	8	9	10	11	12

(Grade Enrollment as taken from PQ)

Has there been a significant change in the enrollment figures for any grade? (If "Yes" for any grade, cross out original number and enter current figure.)

FOR CENTRAL STAFF USE ONLY:

Comments concerning the source of your check: (i.e., computer list or SLF; who completed SLF?)

Approval Expires 9/30/81

TOTAL ELIGIBLES

PSU NO. _____ TOTAL ELIGIBLES ON WORKSHEET _____

SCHOOL NO. _____

ALPHABET SECTOR _____

Directions: If an alphabet sector is provided above, use the school records to determine the number of eligibles whose last name starts with those letters included in the alphabet sector. If an alphabet sector is not provided, determine the total number of eligibles using school records. Use column 2 below to obtain the total number of eligibles by grade. Enter in column 3 the number of eligibles on the SLF by grade. Enter the sum of these counts for columns 2 and 3 in TOTAL row. Multiply TOTAL by factor which has been provided. Enter product as GRAND TOTAL. Compare GRAND TOTAL entries in columns 2 and 3 with total eligibles entered above. Resolve any discrepancies. Explain discrepancies in space provided.

(1) Grade	(2) Number of Eligibles in Records	(3) Number of Eligibles on SLF
1	Total =	Total =
2	Total =	Total =
3	Total =	Total =
4	Total =	Total =
5	Total =	Total =
6	Total =	Total =

(1) Grade	(2) Number of Eligibles in Records	(3) Number of Eligibles on SLF
7	Total =	Total =
8	Total =	Total =
9	Total =	Total =
10	Total =	Total =
11	Total =	Total =
12	Total =	Total =
TOTAL		
Multiply TOTAL by:	X	X
GRAND TOTAL		

Explanation for discrepancies:

APPENDIX C

Year 11 Estimation Procedures For SLF Completion Rates

YEAR 11 ESTIMATION PROCEDURES FOR SLF COMPLETION RATES

The Year 11 quality check sample design utilized a one-stage cluster sampling procedure within each stratum. The sampling units were either single schools or a relatively large school (in terms of age class enrollment) and a nearby standby school or a split session.

In the subsequent discussion, the following definitions are required:

$X(jh) \equiv$ the number of eligibles reported from the quality check school of District Supervisor stratum-h and age class-j;

$Y(jh) \equiv$ the number of eligibles reported on the Worksheet of the school from District Supervisor stratum-h and age class-j;

$n(jh) \equiv$ the number of nonstandby sample schools selected from District Supervisor stratum-h and age class-j;

$N(ih) \equiv$ the number of nonstandby schools contained in District Supervisor stratum-h and age class-j;

$L(j) \equiv$ the total number of District Supervisors by age class-j strata.

A combined ratio estimate of the proportion of the eligibles which were reported by the sample schools can be obtained by

$$\hat{R}(j) = \frac{t_y(j)}{t_x(j)}$$

where

$$t_y(j) = \sum_{h=1}^{L(j)} \frac{N(jh)}{n(jh)} Y(jh)$$

$$t_x(j) = \sum_{h=1}^{L(j)} \frac{N(jh)}{n(jh)} X(jh)$$

The variance of these estimates was obtained by collapsing the three age class strata within each District Supervisor stratum:

$$\text{var}\,\hat{R}(i) = \left[\frac{t_y(i)}{t_x(i)}\right]^2 \cdot \left\{\frac{\text{var}\, t_y(i)}{t_y(i)^2} + \frac{\text{var}\, t_x(i)}{t_x(i)^2} - \frac{2\ \text{cov}\,[t_y(i)t_x(i)]}{t_y(i)\ t_x(i)}\right\}$$

where

$$\text{var}\, t_y(i) = \sum_{h=1}^{H} \left\{\frac{N(h)[N(h) - n(h)]}{n(h)}\right\} s_y^2(i) ,$$

$$\text{var}\, t_x(i) = \sum_{h=1}^{H} \left\{\frac{N(h)[N(h) - n(h)]}{n(h)}\right\} s_x^2(i) ,$$

$$\text{cov}\,[t_y(i)t_x(i)] = \sum_{h=1}^{H} \left\{\frac{N(h)[N(h) - n(h)]}{n(h)}\right\} s_{xy}(i) ,$$

and where

$$t_y(i) = \sum_{h=1}^{H} \frac{N(h)}{n(h)} \sum_{j=1}^{3} Y(jh) ,$$

$$t_x(i) = \sum_{h=1}^{H} \frac{N(h)}{n(h)} \sum_{j=1}^{3} X(jh) .$$

In the preceding and subsequent formula:

- $n(h)$ = the number of nonstandby sample schools selected from District Supervisor stratum-h;
- $N(h)$ = the number of nonstandby schools contained in District Supervisor stratum-h;
- H = the number of District Supervisor strata.

The estimates for $s_y^2(i)$, $s_x^2(i)$, and $s_{xy}(i)$ were obtained by averaging measures of variance and covariance over the H District Supervisor strata,

$$s_y^2(i) = \frac{1}{H} \cdot \sum_{h=1}^{H} \frac{1}{n(h)-1} \sum_{j=1}^{n(h)} [Y(jh) - \bar{y}(h)]^2 ,$$

$$s_x^2(i) = \frac{1}{H} \sum_{h=1}^{H} \frac{1}{n(h)-1} \sum_{j=1}^{n(h)} [X(jh) - \bar{x}(h)]^2 ,$$

and

$$s_{xy}(i) = \frac{1}{H} \cdot \sum_{h=1}^{H} \frac{1}{n(h)-1} \sum_{j=1}^{n(h)} [X(jh) - \bar{x}(h)][Y(jh) - \bar{y}(h)] ,$$

where

$$\bar{x}(h) = \frac{\sum_{j=1}^{n(h)} X(jh)}{n(h)} ,$$

and

$$\bar{y}(h) = \frac{\sum_{j=1}^{n(h)} Y(jh)}{n(h)}$$

Table C-1 shows values of N(jh), n(jh), X(jh), and Y(jh) for each stratum in the Year 11 data.

APPENDIX C PAGE C-5 TABLE C-1

OMMITTED DUE TO CONFIDENTIALITY