ABSTRACT
              This study was conducted in an elementary school
where the Wisconsin Design for Reading Skill Development had been
implemented and developed for several years. Its aim was to determine
what happened to individual children during reading instruction when
the Design was being systematically used. A case history approach was
used, and the school was organized into units in which two grade
levels were usually combined. The study was limited to students in
grades two through six. Within each unit one child was randomly
selected from a high IQ group, one from an average IQ gro·'ç, and one
from a low IQ group. The IQ scores were obtained from the school
records and were the subjects' most recent scores on the
Lorge-Thorndike Intelligence Test. Clerical aides were trained to
observe the subjects during skill instruction in reading whenever it
was taking place. The aides made one observation a day for ten weeks.
Results from the study indicated that individualization of reading
instruction was apparent. Also found were anticipated differences
among age groups and the individualizing of reading instruction in
elementary skills for students of low and average ability. (WR)

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USE OF A CASE HISTORY APPROACH

TO STUDY THE EFFECTS OF INDIVIDUALIZED

READING INSTRUCTION UPON INDIVIDUAL CHILDREN

Case histories of individual pupils were made to study the effects
of an individualized or "diagnostic teaching" approach to reading in-
struction--namely, the Wisconsin Design for Reading Skill Development.
The purpose of the investigation was to determine what adaptations
for individual children were actually made with an individualized ap-
proach to instruction. The study was therefore considered exploratory
in nature. Rather than comparing an experimental school, using the
Design, to a control school which was not, the study was done only in
a school where the Design had been implemented and developed for
several years to learn what happened to individual children during
reading instruction when the Design was being systematically used.

Brief descriptions of the Design and of the school's organiza-
tional plan follow to provide a picture of the setting in which the
study took place.

Wisconsin Design for Reading Skill Development

The purpose of the Design is to implement individually guided education (IGE) in reading. [A more complete explanation of the Wisconsin Design for Reading Skill Development can be found elsewhere (3).] In other words, each child's strengths and weaknesses in reading skills are preassessed; then his instructional program is designed to remedy problems with specific skills. Instruction takes place in groups of varying sizes. The distinguishing feature of skill group instruction which is part of the Design is that all children in a group lack the specific skill being taught and are ready for instruction in it. However, there is also the recognition that children may learn in different ways. Therefore, a variety of activities and approaches is recommended during the course of instruction for a given group.

As soon as a child gives evidence of having grasped the skill being taught, he is dismissed from skill group instruction to work on another skill need or to engage in independent activities. Thus, skill groups are flexible since frequent changes in composition are made to adjust for the changing needs of individual children.

Six areas of skill development are included in the Design. They are as follows: Word Attack, Comprehension, Study Skills, Self-Directed Reading, Interpretive Reading and Creative Reading. Primary teachers in the school were encouraged to emphasize the word attack area as part of their work with the R & D Center. Furthermore, they were provided with more complete materials for assessing and teaching word attack skills than for the other skill areas.

The skills included in the Design are also grouped into five diffi-
culty levels. The approximate grade equivalents for each level are as
follows:

    Level A -- end of Kindergarten

    Level B -- end of Grade 1

    Level C -- end of Grade 2

    Level D -- end of Grade 3

    Level E -- Grades 4-6

A child should not necessarily be working on the skills at his
grade level, however. Instead, he should be working on the skills at
his instructional level, advancing to new skills as fast as he is able.

Multiunit School

The case history study was done in a school which was organized
into units rather than into grades. [A complete description of the
multiunit organization can be found elsewhere (2).] Instead of self-
contained classrooms, children are placed in a unit in which two
grade levels are usually combined. Planning and instruction are
done cooperatively b· all the teachers in a unit rather than by each
teacher alone for his classroom.

Children are placed in units by age rather than on the basis of
achievement. A given child's instructional program, however, may be
geared to a level other than the grade levels included in his unit.
The grade equivalents for the various units in the school where the
study was done are as follows:

    Unit A: Kindergarten and Grade 1

    Unit B: Grades 1 and 2

Unit C: Grades 2 and 3

Unit D: Grades 3 and 4

Unit E: Grades 5 and 6

The case history study was limited to students in grades 2-6 since the greatest impact of the Design usually occurs beyond the first grade level. Consequently, Unit A and the first graders in Unit B were not included in the study.

METHOD

Teachers and aides were given only a minimal amount of the following information to insure that instruction would not be influenced by the gathering of case history data.

Selection of Subjects and Observers

Three children beyond the first grade level in age were selected from each of the units. Within each unit one child was selected randomly from the high IQ group, one from the average IQ group, and one from the low IQ group. Intelligence test scores--the most recent scores on the Lorge-Thorndike Intelligence Tests--were obtained from school records. The range of each group was as follows:

High IQ: 110-129

Average IQ: 90-109

Low IQ: 70-89

The unit, grade, IQ group, and sex of each child randomly selected from the IQ groups within each unit are presented in Table 1.

- - - - - - - - - - - - -
Insert Table 1 about here
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The clerical aide in each unit was selected as the most able to make unobtrusive observations of the children during reading instruction. Clerical aides do not participate in instruction, and, therefore, their time is not rigidly structured. Although they know most of the children, the children do not look to them for help or instruction. Therefore, the clerical aides were free to enter classrooms to make observations without the disruption sometimes caused by observers who are not part of the school staff.

Within the time block set aside for reading instruction in each unit, the aide was assigned a different observation time for each day. They were, however, specifically instructed to observe skill instruction in reading whenever it was taking place, but to vary their observation times each day.

Observation Instrument

The observation instrument was an adaptation of one used in a previous study (1). The observation form and accompanying instructions for its use are presented in the Appendix.

Attempts were made to keep the form and instructions as simple and clear as possible to permit use by clerical aides. The aides were encouraged to ask teachers about the nature of the activities or skills if they were unsure how to mark the observation form. Questions about the use of the form were to be referred to the investigator.

Training of the Observers

The investigator met with the clerical aides to explain their role in the study and to give them the observation form with the accompanying instructions on its use. Each item on the observation

form was thoroughly discussed, and situations were simulated to provide practice for the aides in using the observation form. A pilot study was then run for ten days. At the completion of the pilot study, the investigator again met with the aides to determine what problems had been encountered, and the categories were further defined in light of observation experiences.

Collection of Data

The clerical aides made one observation per day in eacn unit from early January through the end of March, 1970--a total of ten weeks. Due to absences by children and by aides, the total number of observations collected varied within each unit and in no case equaled the total number of days that the study was in progress.

ANALYSES, RESULTS, AND CONCLUSIONS

Since one type of analysis was performed on the data in several categories, the analyses, results, and conclusions are presented for these categories first.

Activity, Group Size, Skill Area

Skill Level, and Modeling

Method of Analysis

The proportion of observations for each item within the categories of Activity, Group Size, Skill Area, Skill Level, and Modeling was computed. Then an estimate of the range of each proportion was calculated using the following probability statement:

$$\text{Probability } \left(\hat{p} - 2\sqrt{\frac{\hat{p}\hat{q}}{n}} \leq p \leq \hat{p} + 2\sqrt{\frac{\hat{p}\hat{q}}{n}} \right) \approx .95$$

This probability statement assumes a normal distribution and uses the quantity $\sqrt{\frac{\hat{p}\hat{q}}{n}}$ as an estimation of the standard error of measurement.

The estimated ranges or intervals were used to compare (a) the proportions of time a particular unit or IQ group devoted to two or more activities (or other categories), and (b) the proportions of time two different units or IQ groups devoted to the same activity. The difference between two observed proportions was not considered statistically significant unless the corresponding interval estimates did not overlap.

Results and Conclusions

Activity. When comparisons were made across units, certain types of activities predominated in particular units. Table 2 presents the estimated ranges for all the activity categories.

- - - - - - - - - - - - -
Insert Table 2 about here
- - - - - - - - - - - - -

The following conclusions may be drawn:

1. A variety of activities was observed in each unit. No unit concentrated even half of its time on one type of activity.

2. Some types of activities were infrequently observed. Experience charts, for example, were not seen at all. Basal workbooks and printed programmed materials were not often observed, indicating that seatwork with commercial workbook materials was not a frequent activity in any unit. Testing was also not observed often. This finding is surprising in that skill tests are provided as part of the Design materials to preassess skill needs and to check skill attainment after instruction.

3. The use of different activities by older and younger children
was generally as expected. For example, supplementary reading was ob-
served significantly more often in Unit E than in other units. On the
other hand, board work was found significantly most often in Unit C
and least often in Unit E--a finding which is logical when one con-
siders that the older children in Unit E frequently worked indepen-
dently.

4. No significant differences were observed among units in the
use of teacher-made materials. These were used more often than many
other materials and activities by teachers in all units.

5. No differential treatment for ability levels was evident in
terms of materials and activities. (These proportions, therefore,
were not tabled.)

Group size. Comparisons made across units revealed some dif-
ferences among units for each group size. The ranges are presented
in Table 3.

- - - - - - - - - - - - - -
Insert Table 3 about here
- - - - - - - - - - - - -

The clearest way to present these findings is to show how each
unit ranks in order of frequency for each group size. (See Table 4.)
The assignment of different ranks indicates significant differences
among the estimated intervals (i.e., the intervals do not overlap).
On the other hand, when more than one unit is given the same rank, no
significant differences exist among them.

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Insert Table 4 about here
- - - - - - - - - - - - -

When comparisons were made across all units, no significant dif-
ferences were found among the units in the use of one-to-one groupings.
However, when Units B and E (the extremes in age groups) were compared,
Unit E had significantly more one-to-one groupings. Large groups were
observed most often in Unit C, medium in Unit D, and small in Units D
and B. A child working alone was observed least often in Unit D.

The preference of teachers in each unit for particular types of
groupings seems to indicate that once unit teachers decide on proce-
dures for reading skill instruction, they tend to maintain the same
procedures. This routine may be necessary to insure the smooth opera-
tion of instruction.

Similar comparisons were made across IQ groups. The estimated
intervals are presented in Table 5. When the various group sizes
were compared across the three IQ groups, significant differences
were found only in the one-to-one grouping. Children of the low IQ
group were included in this type of grouping significantly more often
than children in the two other IQ groups. One would hope for this
finding since the low IQ child probably needs more individual help
and tutoring than children of the average and high IQ groups. How-
ever, in comparison to other group sizes this grouping was not fre-
quently observed in any IQ group although it was used more often with
the low IQ children than with children of other ability levels.

If the average IQ group were omitted and only the high and low
IQ groups were compared, it can be seen that the high IQ group was
included in medium groupings significantly more often than the low IQ

group. If only the average and the low IQ groups were compared, the
low IQ group was observed significantly less often than the average
IQ group in small groups. Thus, it appears that the low IQ children
were given fewer opportunities to meet in small and medium groups than
the two other IQ groups.

- - - - - - - - - - - - -
Insert Table 5 about here
- - - - - * - - - - - - -

Comparisons of different group sizes within each IQ group and
within the total group may also be made from Table 5 by reading down
the columns. The ranking orderings are presented in Table 6.

- - - . - - - - - - - - -
Insert Table 6 about here
- - - - - - - - - - - - -

Within the total group of subjects, children were observed work-
ing alone and in large groups most frequently. The other group sizes
observed--in order of frequency of observation--were medium, small,
and one-to-one groupings.

With the use of the Design one would expect more frequent use of
small and medium groupings for specific skill instruction than was ob-
served since individualization can be achieved through groups which
meet each child's needs rather than necessarily through provision of
individual instruction. The frequent observation of a child working
alone, however, may be an artifact of the observational system. Aides
were instructed to mark the observation form as "child alone" if the
child were doing independent work even while in a group setting. Thus,
he might have been part of a group even though he was doing indepen-
dent work at the time he was observed. Although independent work

might indeed be part of group instruction, the observation was classified as "child alone" to keep the observational system straightforward. Thus, participation in a group was marked only when the child was actively engaged in group work--not when he was working independently in a group setting.

Skill area. The ranges of the proportions across and within units were not tabled for skill areas since many of the cells were empty. The word attack area was taught more than other areas in all units except Unit E where both word attack and comprehension skills predominated over other areas. The emphasis on the word attack area was probably due to the nature of the work being done in cooperation with the Research and Development Center.

The estimated intervals for the various areas within each IQ group were not tabled since no significant differences among IQ groups were found. Again, the word attack area predominated.

Skill level. Table 7 presents the estimated intervals for the four difficulty levels across units. Table 8 presents a rank ordering of each level across units. Table 9 shows the rank ordering of different levels within each unit and within the total group.

- - - - - - - - - - - - - - - - - - - -
Insert Tables 7, 8, and 9 about here
- - - - - - - - - - - - - - - - - - - -

It can be noted from Table 8 that Level B was used significantly most often in Unit B, followed by Unit C. Level C skills were taught significantly most often in Unit D, and Level D skills in Unit E.

Even when the total group of subjects was considered, Level B was still the most frequently taught level, followed in frequency by

Levels C, D, and E. Undoubtedly, teachers were providing instruction

in the more elementary word attack skills. One must wonder, however,

whether the children who were functioning at and above grade level in

reading were receiving the correct levels of instruction.

When difficulty levels were conside̅ ̅ 1 ̤ s IQ groups, no sig-

nificant differences were found among tu̅c ̤̅oups. (This information,

therefore, was not tabled.) In other words, not even the children of

high ability were working at significantly different difficulty levels

from the low IQ children. Again, one must question the amount of in-

dividualization provided for children of high ability.

Modeling. As a type of one-to-one grouping, modeling may occur

when one child serves as a model for another child as he helps him in

instruction. Table 10 presents the estimated intervals for modeling

in units and Table 11 shows the use of modeling in the IQ groups.

Insert Tables 10 and 11 about here

When comparisons were made across units, it can be seen that in

no one unit did the child being observed have a model significantly

more often than in all other units. However, it can be noted that

children in Unit E served as models for other children significantly

more often than in Units C and D.

Comparing across IQ groups, the child being observed had a model

significantly least often if he was of the high IQ group. He was also

most likely to be a model if he was of the high IQ group. In fact,

all of the times a high IQ child was observed in modeling situations,

he was serving as a model for another child.

Extent of Skill Group Instruction

and Number of Teachers

Data from these two other categories were also studied.

Method of Analysis

The number of times that groups met for skill instruction was studied in relation to the number of skills that were taught. A ratio was created by dividing the number of group meetings by the number of skills. This ratio represented the average number of sessions devoted to testing or teaching each skill. An observation of a group meeting was not counted as a skill group session unless it was specifically indicated as such on the observation form.

The number of different teachers instructing each child was computed by dividing the number of different teachers' or aides' names listed on the observation forms in a given unit or IQ group by the number of children in that group.

Results and Conclusions

Extent of skill group instruction. The frequencies of meetings of skill groups and the number of different skills that were being tested and taught are presented in Table 12.

- - - - - - - - - - - - - - -
Insert Table 12 about here
- - - - - - - - - - - - - - -

It appears that the greatest amount of instruction per skill was provided in Unit C and the least amount in Unit E. This finding in Unit E is perhaps an indication that older children needed only review of skills rather than intensive work on developing new skills. The ratios for the three IQ groups were similar to each other and to that

of the total group.

Number of teachers. The average number of different teachers that each child had ranged from 2.67 in Unit D to 4.00 in Unit C. This range reflected the methods of handling instruction in a multi-unit school where teachers were encouraged to teach the skills in which they felt most knowledgable rather than necessarily teaching the same group of children. The average number of teachers instructing each child in the various IQ groups was similar to that of the total group--3.33.

DISCUSSION

Techniques of classroom observation and data analysis proved to be workable in gathering information about individual's learning situations. Given a well-defined observation form and training in its use, clerical aides were able to make unobtrusive and accurate classroom observations. Evidence of individualization of reading instruction was apparent, especially in the development and reinforcement of the more elementary skills. Anticipated differences among age groups were also found; however, adaptations for ability level did not appear to be made as frequently as adjustments for age. The conclusion was thus drawn that teachers were individualizing reading instruction in elementary skills for students of low and average abilities. However, provisions for developing higher level skills in bright students were generally not made.

To check the validity of the case history findings, the unit leaders in the school were asked to read a report of the study and to make comments. In general. they agreed with the findings,

particularly noting that individualization of instruction for the high IQ children was lacking at the time of the study. The only finding they took issue with was the relatively small amount of testing observed. Two explanations seem plausible in accounting for this discrepancy: 1) The aides may not have recognized a testing situation and marked it as skill instruction; 2) Teachers may have been doing much testing in comparison with that of previous years but in fact doing a small amount when compared with the time spent on other activities during reading instruction.

This type of study provided important descriptive data that are often overlooked in assessing the effects of a reading program. By randomly choosing a limited number of students for observation, information about the daily operation of reading instruction in the classroom can be obtained. In addition, valuable feedback can be provided to the teaching staff, giving them an objective perspective of reading instruction in their school.

This study was also unique in the use of school personnel to make classroom observations. Contamination of the data due to an "experimenter effect" was thus avoided. The techniques employed in this study could be used by a school staff to study their own reading program or by researchers to monitor the daily operation of an experimental reading program in a school.

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2. Klausmeier, derbert J., Morrow, Richard G., Walter, James, E., & Way, Russell S. Individually guided education in the multiunit elementary school--guidelines for implementation. Madison: Wisconsin Research and Development Center for Cognitive Learning, 1968.

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APPENDIX

Observation Form and

Accompanying Instructions

NAME _____ UNIT _____ DATE _____

List Information Under Size of Group:

	Large (16+)	Medium (8-15)	Small (2-7)	One-to-one (Child With Teacher, Aide, or Older Child)	Child Alone
Activity (check):					
Basal					
Basal Workbook					
Printed Programmed Materials					
Experience Charts					
Board Work					
Teacher-Made Materials (including games)					
Commercial Reading Kits (including games)					
Commercial Learning Kits (including games)					
Audio-Visual Materials					
Supplementary Reading					
Listening Activity					
Other Language Arts Activity					
Testing					
Non-Instructional Activity					
Skill on Design Outline (name, if applicable)					
Teacher's or Aide's Name, if applicable					
No. of Boys in Group, if applicable					
No. of Girls in Group, if applicable					
Location (classrooms, learning center, library, etc.)					

Instructions for Using Observation Forms

1. Observe each of the three children in your unit at the specified time each day:

   Monday -

   Tuesday -

   Wednesday -

   Thursday -

   Friday -

2. Do not call attention to yourself as you enter the classroom, learning center, etc. If possible, observe from the sidelines what each of the three children are doing. Do not ask the child what he is doing. If you have a question about what the activity is, ask the teacher or instructional aide when he is free.

3. Mark the items in the left column (i.e., Activity, Skill, Teacher's Name, Number of Boys, and Number of Girls) under the appropriate vertical column. For example, if a child is using a basal in a medium-sized group, you would place a check mark in the Medium column across from the word Basal. The Skill, Teacher's Name, etc. would also be marked in the column labeled Medium.

4. Definition of items in left column:

   Activity:
   Basal: Basic reading book used for reading instruction.
   Basal Workbook: Workbook (usually a paperback in which a child writes his answers) that accompanies basal reader.
   Printed Programmed Materials: Reading materials with a programmed format.
   Experience Charts: Activity during which the child (individually or in a group) tells a story to an adult who writes it down for the child to read.
   Board Work: Instruction that uses the chalk board as the only medium of instruction. The child may be at the board or listening to the teacher who is using the chalk board in teaching.
   Teacher-Made Materials: Games, worksheets, activities, etc. constructed by the teacher or aide.
   Commercial Reading Kits: Commercial games, workbooks, worksheets etc. that do not accompany the basal series, but that are used as supplementary material in reading instruction.
   Commercial Learning Kits: Commercial games, workbooks, worksheets, etc. that do not teach reading skills as such. Include here Frostig materials, Peabody Language Kit, Ginn Language Kit, etc.

Audio-Visual Materials: Work using an overhead projector, film,
                    filmstrip, tape recorder, etc.

Supplementary Reading: Magazines, literary readers, library books,
                   etc. that are not part of the basal reading
                   program.

Listening Activity: Listening to a story, participating in a
                 discussion, receiving training in hearing sounds,
                 etc.

Other Language Arts Activity: Spelling, handwriting, speaking, etc.

Testing: Standardized, commercial, teacher-made, or informal tests
            and quizzes.

Non-Instructional Activity: Discipline problem, changing activities,
              or listening to procedures for upcoming activities.

Skill on Design Outline: Name, level, and number of skill being taught
if the activity is directed toward developing a skill on the Design
outline. It probably would be necessary to ask the teacher or in-
structional aide for this information.

Teacher's or Aide's Name: Name of teacher or aide if the child is
directly involved in work with an adult. If the child is working
with an older child, write in older child. If the child is doing
independent work with a teacher or aide only as a resource person
to answer questions, leave this row blank.

Number of Boys in Group: Number of boys other than the child being
observed. If the child is doing independent work (even though
other children are present, but not directly working with the
child), leave this row blank.

Number of Girls in Group: Same as category above.

Location: Place where instruction is taking place (classroom,
learning center, library, etc.).

TABLES

Table 1

Unit, Grade, IQ Group, and Sex of Subjects

Subject	Unit	Grade	IQ Group	Sex
1	B	2	High	F
2	B	2	Average	F
3	B	2	Low	F
4	C	2	High	F
5	C	2	Average	M
6	C	3	Low	M
7	D	3	High	M
8	D	3	Average	F
9	D	4	Low	M
10	E	5	High	M
11	E	5	Average	M
12	E	5	Low	M

Table 2

Range of Proportions of
Activities for Units

Type of Activity	Unit B	Unit C	Unit D	Unit E
Basal	.0617-.1673	.0000*	.0540-.1596	.0050-.0742
Basal Workbook	.0188-.0880	.0000	.0504-.1480	.0000
Printed Programmed Materials	.0210-.1010	.0000	.0000	.0050-.0742
Experience Charts	.0000	.0000	.0000	.0000
Board Work	.0428-.1404	.2951-.4691*	.0428-.1404	.0079-.0079*
Teacher-Made Materials	.0657-.1785	.0912-.2176	.1047-.2311	.0749-.1949
Commercial Reading Kits	.0617-.1673	.0655-.1783	.1093-.2417	.0038-.0438*
Commercial Learning Kits	.0023-.0587*	.0000	.0000	.0000
Audio-Visual Materials	.0029-.0429	.0141-.0833	.0000*	.0464-.1440
Supplementary Reading	.0393-.1285	.0060-.0752	.0317-.1209	.1712-.3208*
Listening Activity	.0112-.0804	.0000*	.0023-.0587	.0385-.1361
Other Language Arts Activity	.0112-.0804	.0250-.1050	.0926-.2126	.1163-.2487
Testing	.0029-.0429	.0574-.1702	.0188-.0880	.0035-.0599
Non-Instructional Activity	.1246-.2570	.0285-.1177	.0112-.0804	.0583-.1639

*The difference between this and other proportions in the same row can be considered statistically significant since the estimated ranges do not overlap.

Table 3

Range of Proportions of Group
Sizes for Units

Group Size	Unit B	Unit C	Unit D	Unit E
Large	.0617-.1673	.5146-.6886*	.0971-.2235	.2802-.4498*
Medium	.1093-.2417*	.0043-.0443	.4244-.5984*	.0050-.0742
Small	.1246-.2570	.0000-.0362	.1369-.2753	.0130-.0822
One-to-one	.0029-.0429	.0141-.0833	.0428-.1404	.0503-.1559
Child Alone	.4091-.5831	.2265-.3913	.0023-.0587*	.3574-.5314

*The difference between this and other proportions in the same row can be
considered statistically significant since the estimated ranges do not
overlap.

Table 4

Ranking of Units by Frequency of
Observation for Each Group Size

| Large | Medium | Group Size | One-to-One | Child Alone |
		Small		
1. Unit C	1. Unit D	1. Units D & B	n.s.	1. Units B, E, & C
2. Unit E	2. Unit B	2. Units E & C		
				2. Unit D
3. Units D & B	3. Units E & C			

Table 5

Range of Proportions of Group
Sizes for IQ Groups and Total Group

Group Size	High IQ	Average IQ	Low IQ	Total Group
Large	.1911-.3235	.2447-.3831	.2732-.4172	.2652-.3452
Medium	.1852-.3176	.1318-.2518	.0821-.1797	.1571-.2263
Small	.0606-.1498	.1180-.2308	.0368-.1060	.0892-.1456
One-to-one	.0025-.0375	.0241-.0805	.0821-.1797*	.0465-.0865
Child Alone	.2964-.4404	.2012-.3336	.2522-.3906	.2789-.3589

*The difference between this and other proportions in the same row can be
considered statistically significant since the estimated ranges do not
overlap.

Table 6

Ranking of Group Sizes by Frequency
of Observation Within Each IQ Group
and Within the Total Group

High IQ	Average IQ	Low IQ	Total Group
1. Child Alone, Large, and Medium Groups	1. Large, Child Alone, Medium and Small Groups	1. Large and Child Alone Groups	1. Child Alone and Large Groups
2. Small Group	2. One-to-one	2. Medium, One-to-one, and Small Groups	2. Medium Group
3. One-to-one			3. Small Group
			4. One-to-one

Table 7

Range of Proportions of Skill
Levels for Units

Level	Unit B	Unit C	Unit D	Unit E
B	1.0000*	.6322-.8110*	.1563-.3859*	.0000-.1386*
C	.0000*	.1889-.3677	.5563-.7995*	.0479-.2631
D	.0000	.0000	.0000-.1072	.5771-.8451*
E	.0000	.0000	.0000	.0000-.1386

*The difference between this and other proportions in the same row can be considered statistically significant since the estimated ranges do not overlap.

Table 8

Ranking of Units by Frequency
of Observation for Each Skill Level

Level B	Level C	Level D	Level E
1. Unit B	1. Unit D	1. Unit E	n.s.
2. Unit C	2. Units C and E	2. Unit D	
3. Unit D			
4. Unit E			

Table 9

Ranking of Skill Levels by Frequency of
Observation for Each Unit and for the Total Group

Unit B	Unit C	Unit D	Unit E	Total Group
1. Level B	1. Level B	1. Level C	1. Level D	1. Level B
	2. Level C	2. Level B	2. Levels C, B, and E	2. Level C
		3. Level D		3. Level D
				4. Level E

Table 10

Range of Proportions of Modeling for Units

Modeling	Unit B	Unit C	Unit D	Unit E
Had model	.0000-.8773	.5295-1.0000	1.0000	.0000
Was model	.1226-1.0000	.0000-.4704	.0000	1.0000

Table 11

Range of Proportions of Modeling
For IQ Groups

Modeling	High IQ	Average IQ	Low IQ
Had model	.0000*	.3174-1.0000	.4561-.9189
Was model	1.0000*	.0000-.6826	.0811-.5439

*The difference between this and other proportions in the same row can be considered statistically significant since the estimated ranges do not overlap.

Table 12

Extent of Skill Group Instruction

	Number of Skill Group Meetings	Number of Different Skills Taught	Meetings / Skills
Units:			
B	34	11	3.09
C	94	20	4.70
D	50	15	3.33
E	42	26	1.62
IQ Groups:			
High	71	21	3.38
Average	81	27	3.00
Low	68	24	2.83
Total Group	220	72	3.06