

ED 023 296

24

EM 000 299

By -Cox, Richard C.; Boston, M. Elizabeth

Diagnosis of Pupil Achievement in the Individually Prescribed Instruction Project. Working Paper 15
Pittsburgh Univ., Pa. Learning Research and Development Center.

Spons Agency -Office of Education (DHEW), Washington, D.C.

Report No -WP -15

Bureau No -BR -5 -0253

Pub Date Nov 67

Contract -OEC -3 -16 -043

Note -41p.

EDRS Price MF -\$0.25 HC -\$2.15

Descriptors -Achievement Rating, *Achievement Tests, *Diagnostic Tests, *Elementary Grades, *Individual Instruction, Individualized Curriculum, Mathematics Instruction, Performance Tests, Post Testing, Pretesting, Prognostic Tests, Reading Instruction, Reading Readiness Tests, Science Education, Standardized Tests, Test Construction, *Testing, Test Interpretation, Unit Plan

Identifiers -Project Individually Prescribed Instruction

Diagnostic instruments of the Individually Prescribed Instruction (IPI) Program measure pupil achievement in the IPI learning continuum. The IPI system employs the instructional unit to define progress in mathematics, reading and science. At the start of a school year, placement tests are administered to start the pupil in appropriate learning exercises. Unit pretests provide mastery criteria for objectives within a unit of work and help the teacher know what lesson material to prescribe for the pupil. Posttests measure the pupil's mastery of unit concepts after he has completed his assigned tasks. For each instructional unit, there is one pre- and one posttest. Curriculum embedded tests (CET) indicate when a pupil has learned a particular skill within a unit of work. The teacher plans the pupil's learning sequence and monitors his progress with the aid of these four kinds of tests. Examples of the tests and models for their use are included. (TI)

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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

Diagnosis of Pupil Achievement in the Individually
Prescribed Instruction Project.

Richard C. Cox

and

M. Elizabeth Boston

Learning Research and Development Center
University of Pittsburgh

November 1967

EM 000 299

ED023296

The research reported herein was performed pursuant to Contract OE-3-16-043 with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such research under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the research. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education policy or position.

Preface

The theory and resultant practices of diagnosing pupil achievement in the Individually Prescribed Instruction project are by no means solidified. Changes in our thinking about the theory of achievement diagnosis have necessitated revisions in the testing program. The diagnosis of pupil achievement described in this document is a reflection of what we have learned over the past three years and it is a detailed account of the testing program as it exists as of November, 1967. It is quite probable that these practices will be altered as we obtain feedback from the schools. The testing program in five years might be quite different than that described here. It is in this frame of reference that this document should be read.

Diagnosis of Pupil Achievement in the Individually
Prescribed Instruction Project

Richard C. Cox and M. Elizabeth Boston

Diagnosis of pupil achievement plays a vital role in the Individually Prescribed Instruction (IPI) system. Each time a pupil is to be assigned a new instructional unit during any part of the school year, his teacher must have information about what that individual pupil does or does not know. Knowledge of the entering achievement level of a pupil can be utilized by the teacher in planning an efficient and effective program tailored to the individual. As the pupil proceeds by working on the prescribed instructional materials the teacher must be concerned with monitoring his progress; the continuous diagnosis of achievement provides necessary feedback for further planning and modification of individual learning programs. Diagnosis of pupil achievement thus allows for placement of pupils and provides a continuous evaluation of pupil progression. The testing program, which is intended to meet these requirements, provides placement tests, unit pre and posttests, and curriculum embedded tests.

Placement Testing in IPI

Placement tests are administered at the beginning of each school year, or, for a new pupil, when he enters school. These tests are broad in scope as they are intended to provide a general profile of individual pupil achievement over many units of work. The placement tests are content referenced in that each item on every test is coded to one particular objective in the curriculum. Since placement tests must be of minimum length while providing a maximum of information

not every objective in each unit is tested. Generally the most important, or most characteristic objectives in a unit are tested. For ease in administration no oral exercises are included in the placement tests.

Placement Testing in IPI Mathematics

A battery of six tests has been developed for determining individual pupil placement within each content area of the mathematics curriculum except the Special and Supplementary Topics areas. There is one test for each of the six levels, B through G. Each instrument is designed to provide information about pupil achievement in the content areas in that level. For example, the Level B test includes sections on Numeration, Place Value, Addition-Subtraction, Fractions, Money, Time, Systems of Measurement, and Geometry.

A teacher who is familiar with the achievement level of each pupil may examine the content of each test and decide which is the most appropriate test for each pupil. Based on past performance of pupils on these tests the following pattern of administration is suggested:

<u>Grade</u>	<u>Test</u>
1	B
2	B and C
3	C and D
4	D and E
5	E and F
6	F and G

Since the purpose of this placement testing is to provide a general indication of pupil performance as efficiently as possible, flexibility must be introduced into the system by the teacher. If, for example, a

child in grade 4 has difficulty with the level D test, he probably should not be given the level E test. The information provided in the level D test may be sufficient to indicate the unit in which the child should start working. The teacher may also wish to administer several parts of the level C test. On the other hand, if a pupil in grade 2 has mastery of several units in level C he might be given the level D test for those units. The primary goal is to get the pupil started in the appropriate learning exercises as quickly as possible with as much accuracy as possible.

The criterion for mastery on the placement tests is 85 percent on each unit tested. This criterion must also be flexible if the system is to remain in the control of the teacher. If, for example, on the placement test, a pupil gets 4 out of 5 items correct in a given unit, which is 80 percent, the items should be examined to see if the pupil can or cannot be considered to have mastery of that unit.

All of the IPI mathematics tests are published by Appleton Century Crofts. An experimental scoring device, known as Write and See, has been incorporated into this year's placement tests. The answers to each item are printed invisibly on the test itself and are revealed when a special solution is applied. This feature facilitates scoring and is more convenient for the teacher than separate test keys.

An Example of an IPI Mathematic Placement Test

The level C math placement test is presented on pages 4 to 13. The scoring solution has been applied to the Numeration test on page 4.

IPI Placement Test

C Numeration (01)

NAME AND NUMBER _____

unit page 1 of 1

DATE _____

CLASS _____

C I A C L E C O R R E C T B O X	TL - P.T.S.	
	3	100%
NO. OF P.T.S.	%	
4	80	
5	60	
2	40	
1	20	

Skill 4 — Directions: Look at the first row. Fill in the spaces by counting by tens.

127	137			167	
-----	-----	--	--	-----	--

147, 157,
177
(1 point)

Skill 5 — Directions: Look at the next row. Count backward by fives and fill in the spaces.

128	123			108	
-----	-----	--	--	-----	--

118, 113,
103
(1 point)

Skill 6 — Directions: Look at the next row. Count by twos and fill in the spaces.

95	97				
----	----	--	--	--	--

99, 101,
103, 105
(1 point)

Skill 7 — Directions: Fill in the missing numbers in the rows below.

95	100			115
----	-----	--	--	-----

105, 110
(1 point)

106	96			
-----	----	--	--	--

86, 76, 66
(1 point)

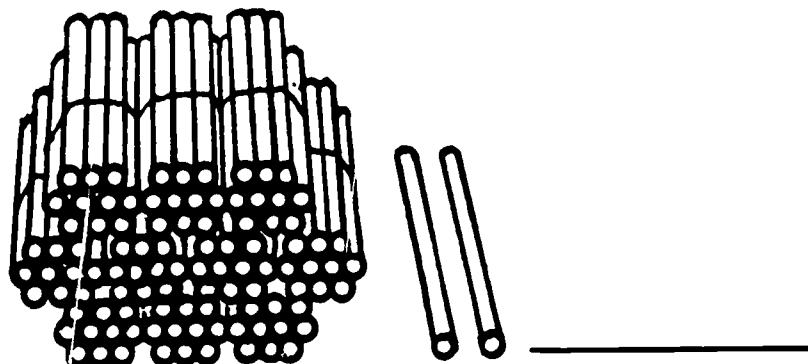
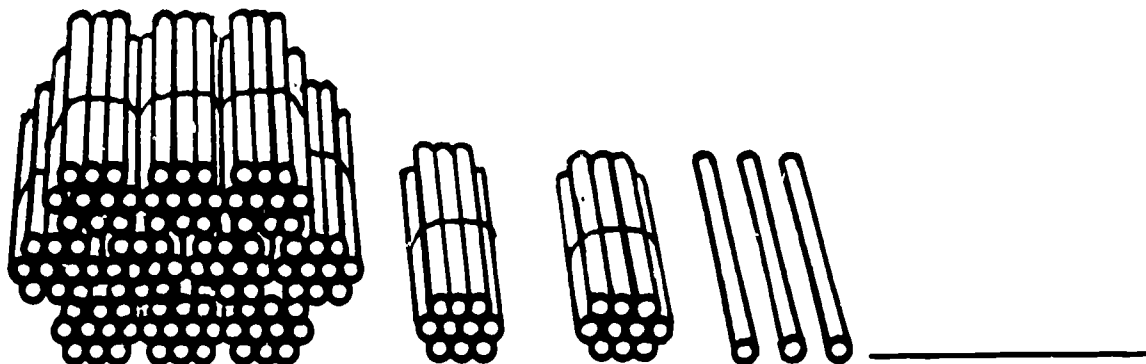
NAME AND NUMBER _____

unit page 1 of 1

DATE _____

CLASS _____

Skill 2 – Directions: Write the number that tells how many sticks are in each row. Each small bundle has ten sticks in it. The big bundles have ten of the small bundles.



Skill 5 – Directions: Fill in the chart to show the number of hundreds, tens, and ones for each number in the chart.

	Hundreds	Tens	Ones
101			
37			
196			

NAME AND
NUMBER _____

unit page 1 of 1

DATE _____

CLASS _____

Skill 3 — Directions: Add all these numbers.

$$\begin{array}{r} 63 \\ + 2 \\ \hline \end{array} \quad \begin{array}{r} 52 \\ + 26 \\ \hline \end{array} \quad \begin{array}{r} 33 \\ + 36 \\ \hline \end{array} \quad \begin{array}{r} 24 \\ + 75 \\ \hline \end{array}$$

Skill 4 — Directions: Place $>$, $<$, or $=$ in the \square
to make a true number sentence.

$$\begin{array}{l} 8 + 6 \square 4 + 7 \\ 5 + 9 \square 7 + 7 \\ 3 + 4 \square 2 + 9 \end{array}$$

Skill 5 — Directions: Add each set of numbers.

$$\begin{array}{r} 2 \\ 1 \\ + 8 \\ \hline \end{array} \quad \begin{array}{r} 4 \\ 2 \\ + 3 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ 2 \\ + 9 \\ \hline \end{array}$$

NAME AND
NUMBER _____

unit page 1 of 1

DATE _____

CLASS _____

Skill 1 – Directions: Subtract.

$$\begin{array}{r} 17 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 17 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ - 7 \\ \hline \end{array}$$

Skill 3 – Directions: Fill in the missing numbers.

$$3 + \square = 10$$

$$4 + \square = 8$$

$$\square + 8 = 15$$

$$5 + \square = 12$$

$$\square + 9 = 18$$

$$8 + \square = 12$$

NAME AND
NUMBER _____

unit page 1 of 1

DATE _____

CLASS _____

Skill 4 — Directions: Write $>$ or $<$ in the to
make a true number sentence.

2 PENNIES + 3 PENNIES 5 PENNIES - 1 PENNY

18 INCHES - 7 INCHES 15 INCHES - 8 INCHES

Skill 4 — Directions: Write $=$ or \neq in the to
make a true number sentence.

7 DOZEN + 4 DOZEN 3 DOZEN + 2 DOZEN

14 + 3 18 - 1

11 - 9 18 - 16

NAME AND

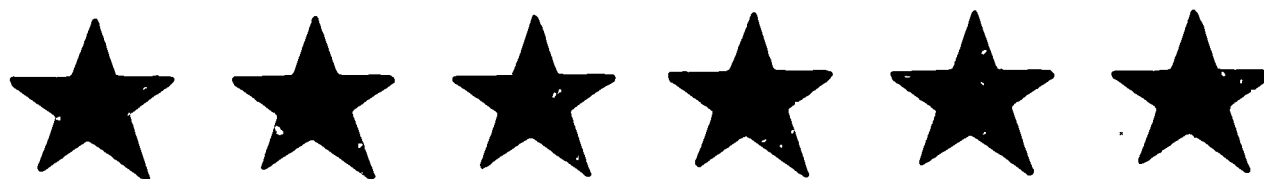
NUMBER _____

unit page 1 of 1

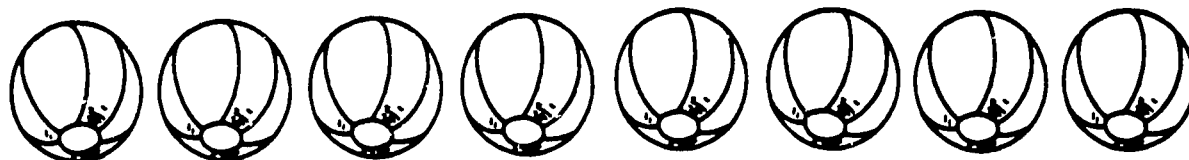
DATE _____

CLASS _____

Skill 3 – Directions: Look at the row of stars. Divide the row into thirds by drawing a circle around all the stars in each third.

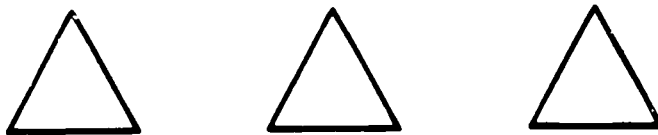


Look at the row of balls. Divide the row into fourths by drawing a circle around all the balls in each fourth.



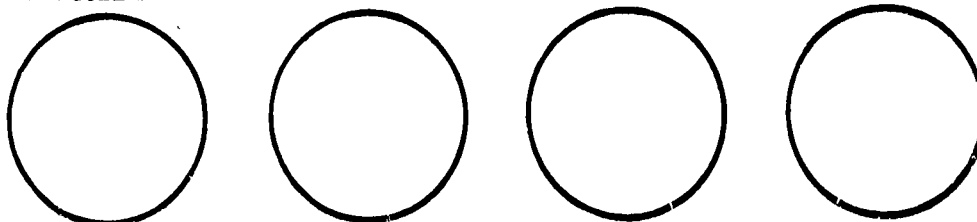
Skill 4 – Directions: Look at the row of triangles.

Make an X on $\frac{1}{3}$ of them.



Look at the row of circles.

Make an X on $\frac{1}{4}$ of them.



IPI Placement Test

C Money (09)

NAME AND NUMBER _____

unit page 1 of 1

DATE _____

CLASS _____

Skill 1 – Directions: Put an X on the coins in each row that are equal in value to the first coin in the row.



Skill 2 – Directions: Look at the toy in each row. Draw an X on the coins in that row which are needed to buy the toy.



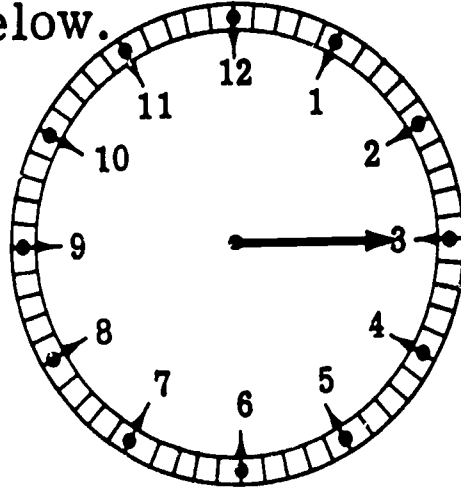
NAME AND NUMBER _____

unit page 1 of 1

DATE _____

CLASS _____

Skill 5 – Directions: Use the clock to answer the questions below.



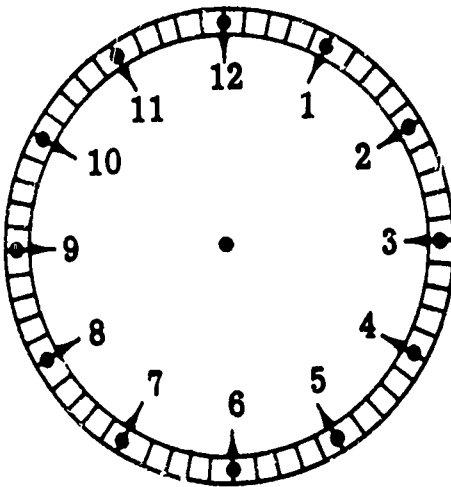
The big hand shows how many minutes after the 12?

Answer _____

The big hand shows how many minutes before the 12?

Answer _____

Draw a big hand on the clock to show 39 minutes after the 12 and 21 minutes to the 12.



NAME AND NUMBER _____

unit page 1 of 1

DATE _____

CLASS _____

Skill 2 – Directions: Circle the answer that measures the greater length in each row.

SAMPLE	
1 inch	2 inches

1 inch

1 foot

20 inches

1 foot

2 feet

19 inches

Skill 3 – Directions: Circle the correct answer to the questions below.

How many cups does it take to fill a pint?

1 cup

2 cups

3 cups

How many pints does it take to fill a quart?

3 pints

1 pint

2 pints

NAME AND NUMBER _____

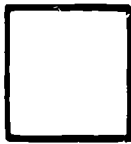



unit page 1 of 1


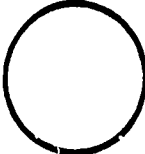


DATE _____

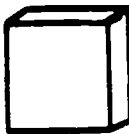
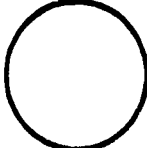


CLASS _____

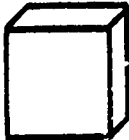
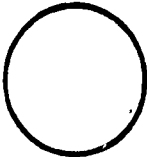

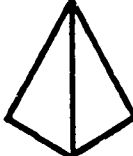
Skill 1 – Directions: Look at the word in the box. Put an X on the object which means the same as the word. Do the rest of the page the same way.

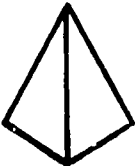
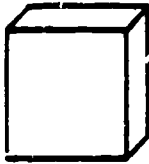


SAMPLE

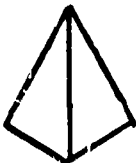
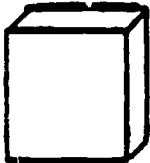


circle    

square    

rectangle    

cube    

cone    

cylinder    

An Example of the Use of IPI Math Placement Tests

A grade 3 pupil is administered the level C and D placement tests. His percentage scores on each of the units are as follows:

	<u>C</u>	<u>D</u>
Numeration -	60%	20%
Place Value -	60%	0%
Addition -	80%	60%
Subtraction -	80%	20%
Multiplication -		20%
Division -		10%
Combination of Processes -	20%	0%
Fractions -	25%	10%
Money -	100%	100%
Time -	0%	0%
Systems of Measurement -	60%	20%
Geometry -	100%	60%

The results of this testing seem to clearly indicate that the pupil be placed in level C in the areas of Numeration, Place Value, Combination of Processes, Fractions and Systems of Measurement. He would be placed in level D in the areas of Multiplication, Division, and Geometry. The teacher may wish to administer the level E test only in the area of Money to see how far the pupil can achieve mastery, or she may decide to wait until the pupil is working at the E level in all areas and then pretest level E money.

The pupil's score in the area of time exemplifies a special case where teacher judgement is important. Whenever a pupil's score

falls below 20 percent in a given area on the placement test the teacher will probably test the next lowest level using either a placement or a pretest for that area. If, in the example, mastery is demonstrated at the B Time level then the pupil would be considered placed in C Time.

Scores of 80 percent, like the Addition and Subtraction scores in the example above, present another problem in the interpretation of placement tests. Since this figure is close to the mastery criterion, the teacher should look at the item or items missed to see if the pupil should take the level D placement test in these areas; or, lack of mastery may be assumed and the pupil would take the pretest in that area. This decision may also be influenced by the pupils general level of achievement in the other areas. The purpose in mentioning some of the alternatives to this given situation is to stress the point that teachers, not tests, make decisions about pupils.

Placement Testing in IPI Reading

The McGraw-Hill Reading Series, a linguistic approach to the teaching of reading, is the foundation of the reading program at the lower levels. A pupil's performance on the McGraw-Hill Reading Readiness tests indicates when he should be administered the McGraw-Hill Placement Tests for Books 1-14. The pupil is placed in the proper reading book depending on mastery displayed on these tests.

The IPI reading curriculum supplements and extends the McGraw-Hill Series. Reading placement tests have been constructed for the upper levels, E through I, of the IPI curriculum. These tests like the IPI math placement tests give a broad view of entering pupil achievement and provide a basis for diagnosing pupil strengths and weaknesses.

With the aid of the placement test scores, the teacher is able to plan and prescribe a reading program for each individual.

Usually, previous performance of the pupil dictates which test he is to receive. A general guideline for administering tests to new pupils in the IPI program is:

<u>Grade</u>	<u>Level Test</u>
3	E
4	E or F
5	F or G
6	F,G or H

The reading placement tests include items coded to particular objectives within the various units of the reading continuum. As an example, the level G test includes items for Structural Analysis, Literal Comprehension, Interpretive Comprehension, Evaluative Comprehension, Organizational Skills, Reference Skills and Phonetic Analysis.

Use of the reading placement tests is similar to the use of math placement tests; children display varied patterns of reading achievement. One child may place at level E in Phonetic Analysis, Structural Analysis and Reference Skills, and at level F in all other areas. Another child may place at the same level in all areas. The teacher decides which placement test is to be administered to each particular child, analyzes the results, and prescribes appropriate tasks for each individual.

Placement Testing in IPI Science

The science curriculum is divided into two sections, -- series K and series I. Two placement tests have been constructed, one for series K and one for series I. The Science placement tests are administered as group

paper and pencil tests, with the teacher demonstrating many items with specially constructed materials. The student records his answers in the test booklet.

Science placement tests also provide a general profile of pupil achievement. The items test only the objective or objectives in each unit which appear to typify or summarize the unit. The pupil who achieves 85 percent mastery on all units in the K series test is given the I series test to determine where he should begin work.

Unit Pre and Posttests

Unit pre and posttests are utilized in all three content areas of IPI. The function of these tests is to assess the mastery of all the skills in one particular unit. For example, in mathematics there are 85 units. Since there is one pretest and one posttest for each unit, there are 85 pretests and 85 posttests for the mathematics curriculum.

A pretest is administered when a pupil is about to begin a unit. Since the items are designed to measure the achievement of the skills specified in the curriculum for that unit, each objective is represented and there are more items per skill than on the placement tests. If the pupil achieves mastery (85 percent) in all skills on the pretest, he does not work in that unit, but is given the pretest for the next unit in his instructional sequence. If mastery is not achieved on any skills, the pupil is assigned work for those skills. After he achieves mastery in all assigned skills, he is given the posttest for the entire unit.

The posttest is an alternate form of the pretest. Each skill is tested and scored in the same manner as on the pretest. If the pupil

does not display mastery of each skill on the posttest, he is given additional work in those skills. If on the other hand, the pupil does display mastery in each skill on the posttest he proceeds to the pretest for a new unit.

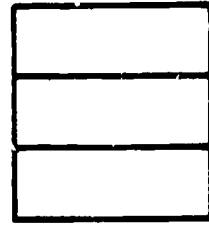
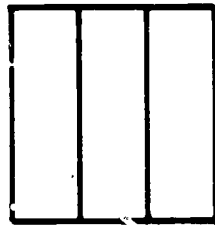
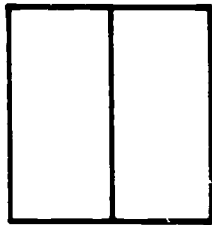
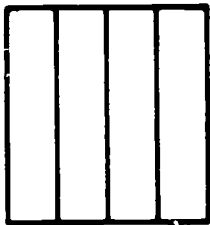
An Example of an IPI Mathematics Pretest

The level C Fractions pretest is presented on pages 19 to 23.

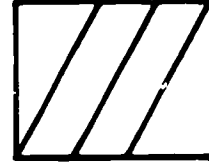
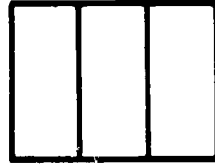
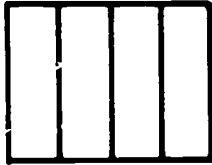
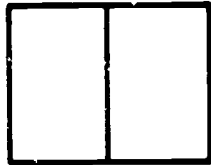
Directions: Put an X on the figure that is divided into

...

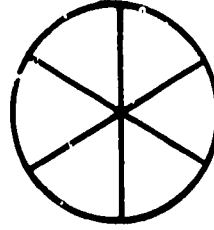
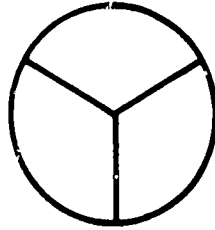
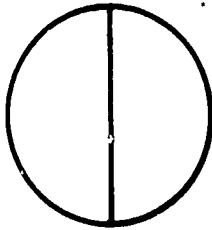
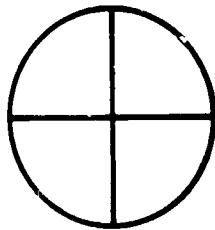
halves



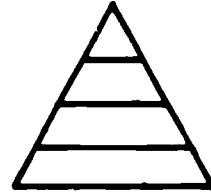
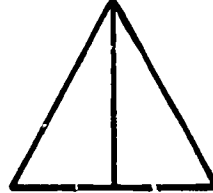
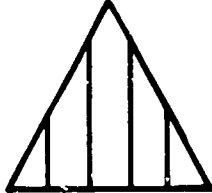
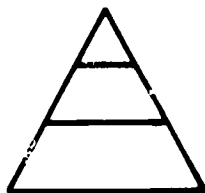
thirds



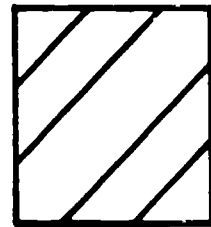
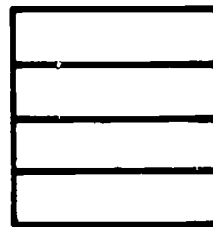
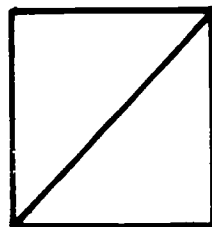
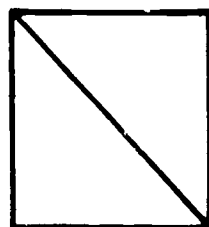
fourths



halves



fourths



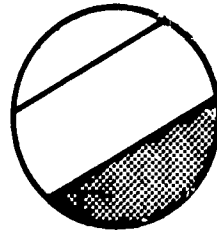
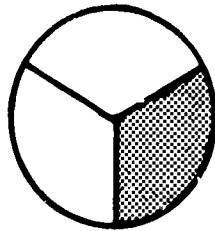
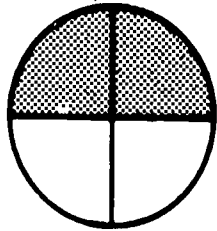
C I R C L E C O R R E C T X O B	TL. PTS.	
		5
	NO. OF PTS.	%
	4	80
	3	60
	2	40
	1	20

C FRACTIONS (08) PRE-TEST

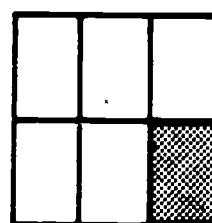
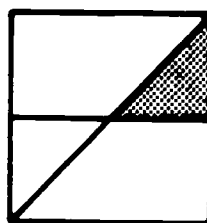
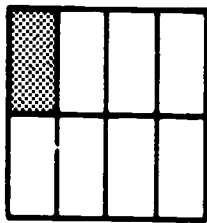
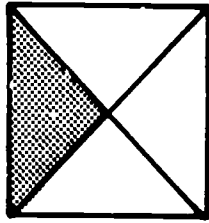
(20)
SKILL 2

Directions: Put an X on the figure which is shaded to match the printed fraction.

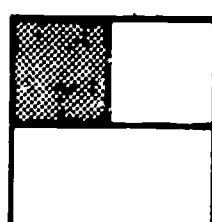
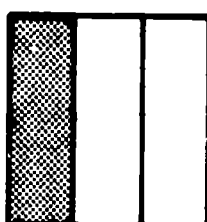
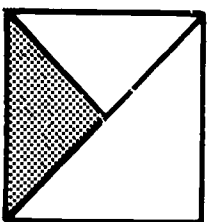
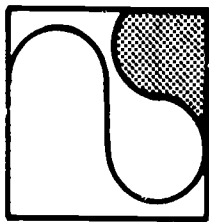
$\frac{1}{3}$



$\frac{1}{4}$



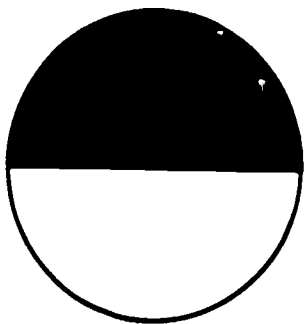
$\frac{1}{3}$



Directions: Fill in the blank.

One-third means 1 of ____ equal parts.

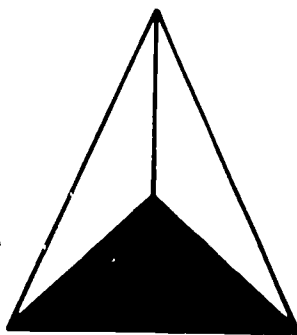
Directions: Draw a circle around the fraction that tells what part of the figure is shaded.



$\frac{1}{2}$

$\frac{1}{3}$

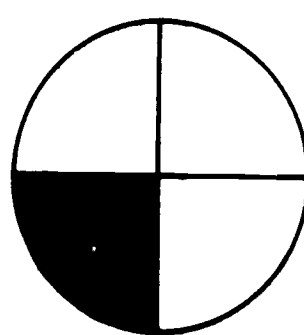
$\frac{1}{4}$



$\frac{1}{2}$

$\frac{1}{3}$

$\frac{1}{4}$



$\frac{1}{2}$

$\frac{1}{3}$

$\frac{1}{4}$

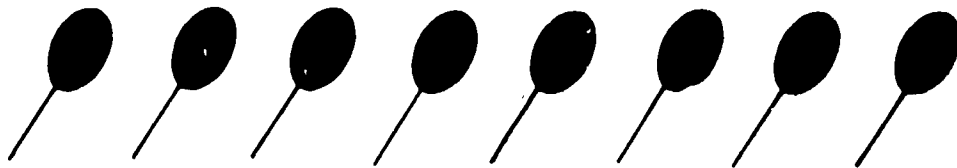
C I R C L E	TL. PTS.	
	7	100%
C O R R E C T	NO. OF PTS.	
	6	86
B O X	5	71
	4	57
	3	43
	2	29
	1	14

Directions: Circle the parts of each row that will divide the row into . . .

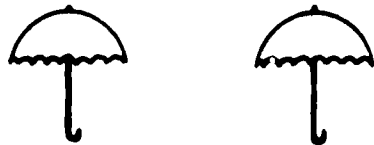
halves



fourths



halves



thirds



thirds

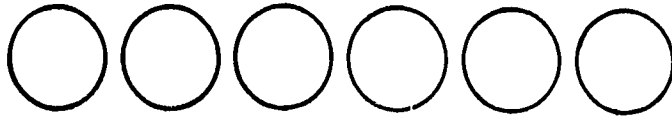


C I R C L E C O R R E C T B O X	TL. PTS.	
	5	100%
	NO. OF PTS.	%
	4	80
	3	60
	2	40
1	20	

C FRACTIONS (08) PRE-TEST

SKILL 4

Directions: Divide the set of circles below into two equal parts. Circle each of the parts. Fill in the blank.



Each part is _____ of the total set.

Directions: Divide the set of triangles below into three equal parts. Circle each of the parts. Fill in the blank.



Each part is _____ of the total set.

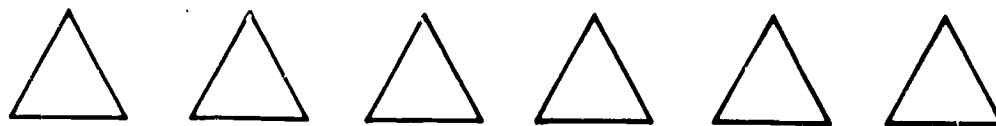
Directions: Divide the set of squares below into four equal parts. Circle each of the parts.



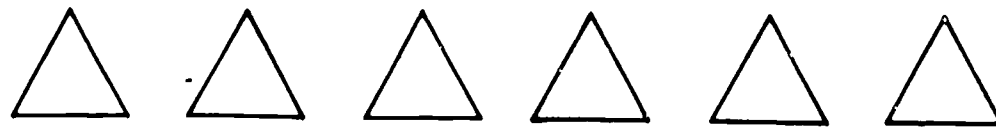
C I R C L E C O R R E C T B O X	TL. PTS.	
	5	100%
	NO. OF PTS.	%
	4	80
	3	60
	2	40
	1	20

Directions: Circle one part of each set which is equal to the fraction shown.

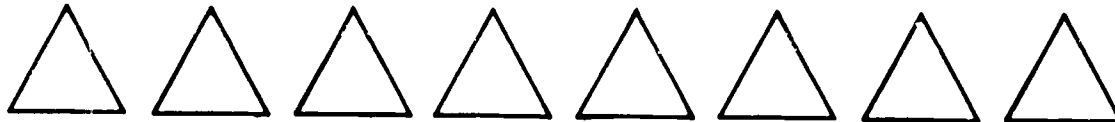
$\frac{1}{2}$



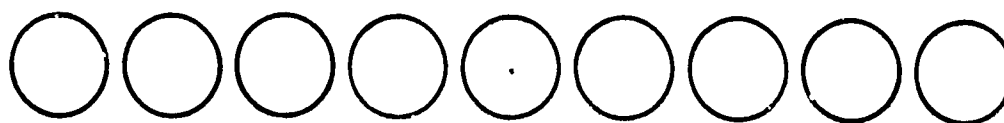
$\frac{1}{3}$



$\frac{1}{4}$



$\frac{1}{3}$



$\frac{1}{4}$



C I R C L E C O R R E C T B O X	TL. PTS.	
	5	100%
	NO. OF PTS.	%
	4	80
	3	60
	2	40
	1	20

An Example of the Use of an IPI Math Pretest

A pupil is administered the C Fraction pretest. His percentage scores on each of the skills are as follows:

Skill 1	100%
Skill 2	57%
Skill 3	20%
Skill 4	100%
Skill 5	100%

The pupil does not pretest out of the unit, but would first be given a prescription for skill 2. After he has achieved mastery of this skill, as indicated by a curriculum embedded test, he would then be given a prescription for skill 3. After attaining mastery of this skill the pupil would be given the posttest for C Fractions.

Pre and Posttests in IPI Science

In science, the pre and posttests, like the science lessons, are presented on tapes and have corresponding workbooks and kits of materials. The pupil receives instructions through earphones from a cartridge tape player. He then responds by manipulating the materials as directed and records his answers on a page of his workbook. Each pre and posttest includes items to test just two or three content related instructional objectives and does not exceed one half hour in length.

On pages 25 to 27 you will find a script for a science pretest on length concepts. The yellow pages 28 to 31 following the script are the workbook pages the pupil has in front of him as he listens to the script. As you read the script, try to visualize the materials and take the test as the pupil would do. There is a score sheet on page 32 after the workpages so you can see how you do

Pretest 20
Length Concepts
I-104 - Item 1
W-R-B1-W

Objective: Identifies stick which is out of order in a set of otherwise ordered sticks.

Materials: Blue board 3" x 5". Six sticks are glued to the board. From left to right they are the following lengths: 1", 2 1/2", 3", 1 3/4", 3 3/4", 4 1/2". The sticks are lined up evenly at the bottom and are lettered A to F from left to right.

1. Get the blue board out of the box.

BELL

2. One of the sticks on the blue board is out of order. Find it.

BELL

3. In your workbook circle the letter of the stick that is out of order.

BELL

4. Turn to page 2.

BELL

5. There are pictures of some other sticks. Circle the picture of the stick that is out of order.

BELL

6. Put the board back into the box.

BELL

Pretest 20
Length Concepts
I-105 - Item 2
W-R-Bk-R

Objective: Orders sticks by length when the sticks also vary in width.

Materials: 5 lettered yellow sticks approximately $1/4$ " thick. Dimensions as follows: A - 4 " x $3/4$ ", B - $4\ 1/2$ " x 1 ", C - $2\ 1/2$ " x 1 ", D - $2\ 7/8$ " x $1/2$ " and E - $3\ 1/4$ " x $1\ 1/4$ ".

1. Turn to page 3.

BELL

2. Take the 5 yellow sticks out of the box.

BELL

3. Line up the yellow sticks by length. Put the shortest at one end and the longest at the other end.

BELL

4. Look at the letters on the sticks.

BELL

5. On page 3 write the letters that are on the sticks in the same order that you lined them up. On the first line write the letter of the shortest stick. On the second line write the letter of the next stick and keep going like that.

BELL

6. Put the sticks back into the box.

BELL

Pretest 20
Length Concepts
I-106 - Item 3
W-R-Bk-Y

Objective: Classifies an unknown length according to an ordered set of 6 sticks.

Materials: Green board 8" x 5". 6 white sticks are glued to the board.

Their lengths, from left to right: 1", 1 1/2", 2 1/4", 3 1/2", 4 1/4", 4 3/4". The sticks are lettered A to F from left to right.
Pencil - 3" long.

1. Turn to page 4.

BELL

2. Get the green board and the pencil out of the plastic box.

BELL

3. The white sticks on the board are lined up by their length. According to its length, where does the pencil fit into the set of sticks?

BELL

4. Put the pencil where it belongs in the set of sticks.

BELL

5. In your workbook are all the letters on the sticks. Draw an arrow to show where the pencil belongs. Make the arrow point between the two letters that the pencil is between.

BELL

6. Put the board and the pencil back into the box.

BELL

Pretest 20
Length Concepts
I-104 -- Item 1
Worksheet

Name _____ Date _____ Grade _____

A

B

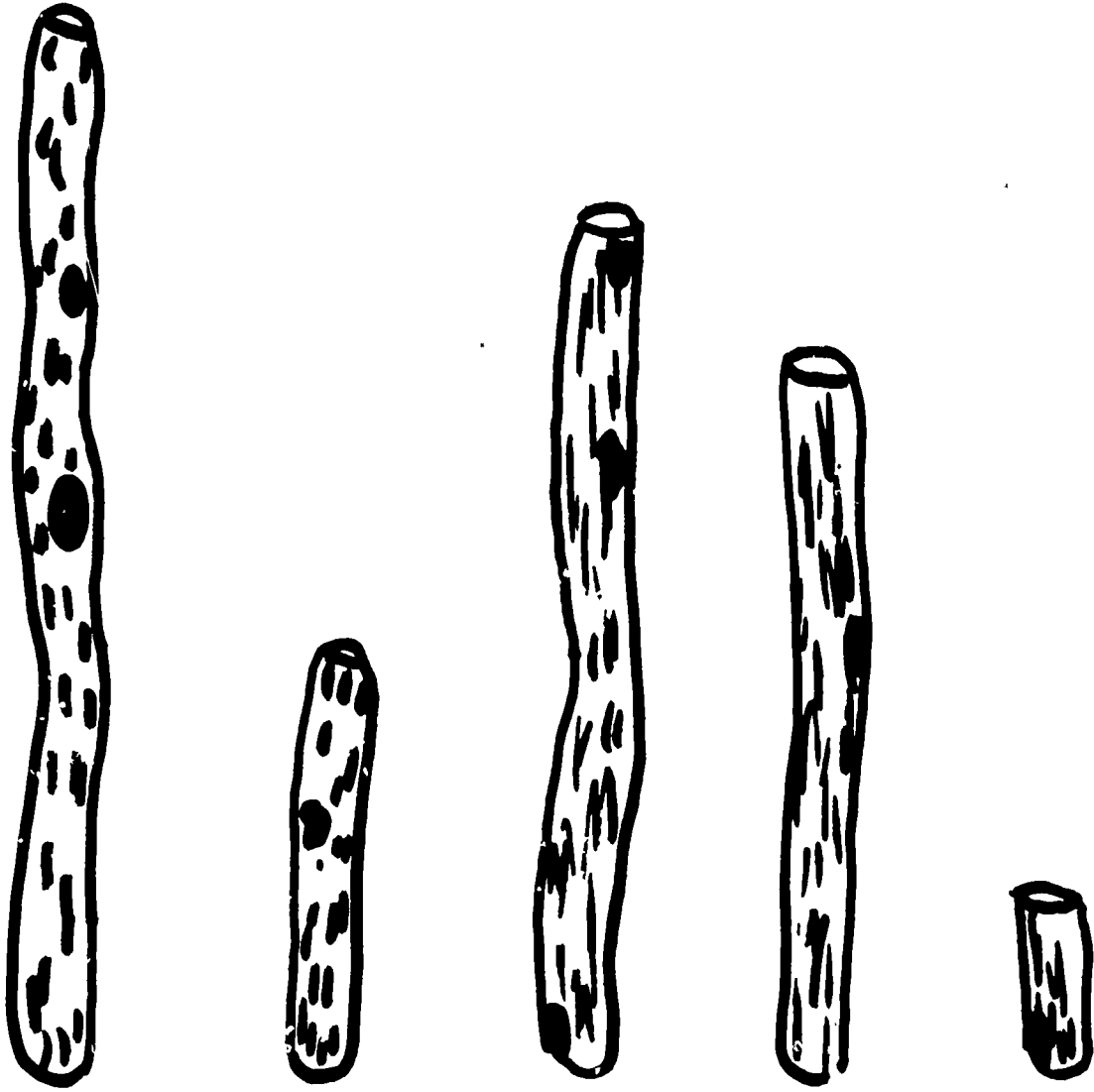
C

D

E

F

Pretest 20
Item 1
Worksheet
cont'd





Pretest 20
Length Concepts
I-106 - Item 3
Worksheet

A B C D E F

Pretest 20
Length Concepts
I-104,105,106
Score Sheet

Name _____ Date _____ Grade _____

Page 1

circle around D

I-104

Possible 2

Passing 2

Score _____

Page 2

circle around 2nd stick from
left

Page 3

C D E A B
in that order

I-105

Possible 5

Passing 5

Score _____

Page 4

arrow between C and D

I-106

Possible 1

Passing 1

Score _____

Curriculum Embedded Tests

The function of a curriculum embedded tests (CET) is to assess mastery of one particular skill within a unit. A CET is administered at intervals prescribed by the teacher in the sequence of tasks she assigns.

The CET in Math has two parts. The first section (above the double line) measures attainment of the objective for which the test is given; the second section serves as a short pretest of the next objective in that unit of the curriculum. If the skill being tested is the last skill in the unit there is no second part.

If the pupil masters the CET (first part) with an 85 percent score, or better, he proceeds to the next skill in the unit that he has not yet mastered. If this were the last or only skill in which the pupil lacked mastery in that unit, he would be given the posttest for the unit. If the pupil does not achieve mastery on the CET, he would be given further workpages or supplementary exercises in that skill and required to take another CET (an alternate form of the first CET).

An Example of an IPI Curriculum Embedded Test

The next page is the CET for skill 2 in level C Fractions.

CET I

C I R C L E C O R R E C T B O X	TL. PTS.	
	7	100%
	NO. OF PTS.	
	6	86
	5	71
	4	57
	3	43
2	29	
1	14	

Draw a line to match each sentence with the word that fits.

One-third means one of _____ equal parts.

two

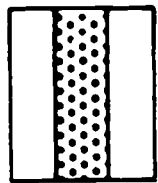
One-half means one of _____ equal parts.

four

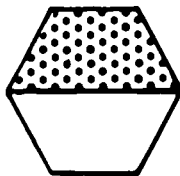
One-fourth means one of _____ equal parts.

three

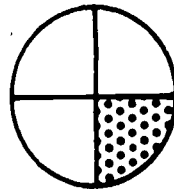
Circle the fraction that tells how much is shaded.



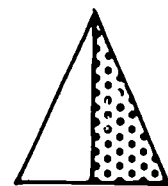
$\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{3}$



$\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{3}$

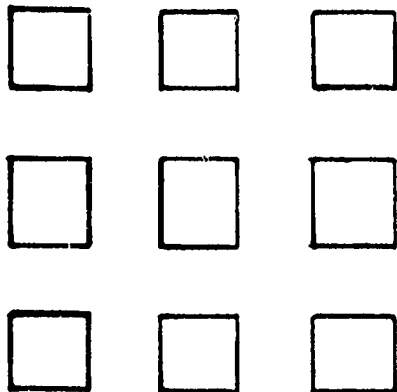


$\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{3}$

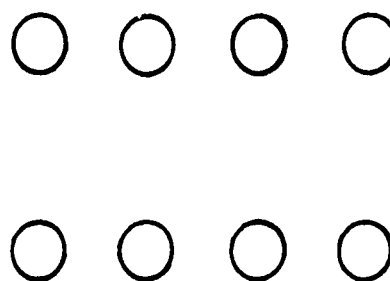


$\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{3}$

Divide this set into thirds.



Divide this set into fourths.



C I R C L E C O R R E C T B O X	TL. PTS.	
	2	100%
	NO. OF PTS.	
	1	50

LEVEL	UNIT	SKILL	PAGE
C	08	2	14

Example of Use of Curriculum Embedded Test (CET) in Mathematics

A pupil is working in C Fractions 2 and has not indicated mastery in C Fractions 3 on the pretest. However, he has, indicated mastery of all other skills in this unit. The results of the CET are as follows:

(See previous page for the actual CET)

C Fractions 2 (above double line) 100%

C Fractions 3 (Below double line) 100%

These scores indicate that the pupil has mastered C Fractions 2. They also show that, in the process of acquiring this skill, he may have learned something about C Fractions 3. He would skip to the CET for C Fractions 3. If he masters this test he should be administered the unit posttest.

Another situation that could occur is suggested by the following pretest profile:

D Num - 1	100%
D Num - 2	60%
D Num - 3	95%
D Num - 4	60%
D Num - 5	100%

Assume that the pupil has completed working in skill 2 and has successfully mastered the CET for that skill. In order to give him the opportunity to pretest out of skill 4 he should be given the bottom part of the CET for skill 3. If he does poorly on this test he should be assigned work in D Num 4. If he does well on the test he should be given the D Num 4 CET (first part) to provide an additional check on this mastery.

Curriculum Embedded Tests in Science

There is no CET as such for each Science objective. Test questions are written into the Science lessons. These provide a check on pupil progress and indicate whether the student should receive additional work in that particular skill, or whether he is ready to move to the next skill.

Curriculum Embedded Tests in Reading

A CET is provided for each objective in Reading. However, in Reading, all CET's test only the objective for which the test is given; there is no second section.

The format of a CET follows closely that of the workpages for each skill. Beginning at level E and on up through the higher levels, student marks and scores his own CET.

An Example of a Reading CET

The following page is the CET for F Structural Analysis skill 4.

Name _____ Date _____ Room _____

--	--

Directions: Circle the sound the ending "ed" has in each word.

<p>opened</p> <p>t d ed</p>	<p>walked</p> <p>t d ed</p>
<p>wanted</p> <p>t d ed</p>	<p>wooded</p> <p>t d ed</p>
<p>entered</p> <p>t d ed</p>	<p>presented</p> <p>t d ed</p>
<p>locked</p> <p>t d ed</p>	<p>swished</p> <p>t d ed</p>
<p>yelled</p> <p>t d ed</p>	<p>hopped</p> <p>t d ed</p>

Summary

The diagnostic instruments of the IPI Program are designed to measure pupil achievement of the instructional objectives of the IPI learning continuum. The instruments may be classified into four categories according to their functions. (1) Placement tests provide general information about which levels and units of work a pupil has mastered and are used to show where the pupil should be placed to begin work in the curriculum. (2) Unit pretests measure mastery of all objectives within a specific unit of work and help the teacher to know exactly what lesson material she should prescribe for the pupil. (3) Posttests are alternate forms of the unit pretests and are used to measure the pupil's mastery of a unit after he has completed his assigned tasks. (4) Curriculum embedded tests show when a pupil has mastered a single objective within a unit of work.

Together, all of these tests aid the teacher in planning each pupil's individual learning sequence and monitor his progress through that sequence.