

**FIGURE 12.7** Thorndike's scale for measuring handwriting. A series of handwriting specimens were scaled on a numerical "quality" scale. To use the scale a student's sample of writing is matched to the quality of one of the specimens and assigned the given numerical value. This figure shows only some of the specimens.

Quality 18	showed that the rise and fall of the tides the attraction of the moon and sun upon
Quality 17	Then the carelessly dressed gentleman stepped lightly into Warren's carriage and held out a small card, John vanished be-
Quality 14	Then the carelessly dressed gentleman stepped lightly into Warren's carriage and held out a small card, I
Quality 9	Then the carelessly dressed gentleman stepped lightly into Warren's carriage and held out a small card, John vanished behind the
Quality 5	bushes and the carriage raved along down the drive way. he and
Quality 4	seated on the and was my dancer and

Source: From "Handwriting," by E. L. Thorndike, 1910, *Teachers College Record*, 11, 62, 65, 70, and 73.

**FIGURE 9.7 Example of an analytic scoring rubric for the essay on selection, placement, and classification decisions.**

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1.	Reasons for distinguishing decision contexts	(4 points)
2.	Selection decisions	
a.	Description	(2 points)
b.	Example of selection decision	(2 points)
3.	Placement decisions	
a.	Description	(2 points)
b.	Example of placement decision	(2 points)
4.	Classification decisions	
a.	Description	(2 points)
b.	Example of classification decision	(2 points)
5.	Comparison of the three decision types	
a.	Similarities	(4 points)
b.	Differences	(4 points)

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**FIGURE 9.9** Example of a holistic scoring rubric for the essay on selection, placement, and classification decisions.

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**Quality standard**

**Marks**

Level 4

16-20

Makes explicit comparisons among the three types of decisions.

- Includes both similarities and differences in the validity argument needed to support each decision.
- Gives concrete examples of the different decisions.
- Gives examples of the types of validity evidence needed for these specific examples.

Level 3

11-15

- Makes explicit comparisons among the three types of decisions.
- Includes both similarities and differences in the validity evidence needed to support each decision.
- Gives a few concrete examples but does not elaborate on the specifics of how they apply to the validity argument in each case.
- Discusses validity and its necessity but only weakly links it to each decision type.

Level 2

6-10

- Describes the three types of decisions, and implicitly compares them.
- Does not elaborate on their similarities and differences.
- Uses "textbookish" and not very specific descriptions and examples.
- States that validity is important but doesn't link it to different evidence needs for each decision.

Level 1

0-5

- Describes some or all of the three types of decisions but does not describe them correctly and/or does not compare their similarities and differences.
  - Examples may be abstract and/or do not match the decision.
  - The different type of validity evidence is not discussed properly.
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**FIGURE 11.13** Example of a simple rating scale for assessing the quality of a student's oral presentation.

**Rating Scale for Classroom Speech**

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Pupil's name \_\_\_\_\_ Date \_\_\_\_\_

Speech topic \_\_\_\_\_

1. Did the speech contain content meaningful to the topic?

1	2	3	4
_____			
Most of speech content not truly meaningful	Only about 50 percent of speech relevant	Most content relevant; occasional irrelevant idea	All content obviously and clearly related

2. Was the delivery smooth and unhesitating?

1	2	3	4
_____			
Long pauses and groping for words in almost every sentence	Pauses and groping for words in about 50 percent of sentences	Occasional pauses and groping for words	Delivery smooth; no pauses or groping for words

3. Did the speaker use correct grammar?

1	2	3	4
_____			
Errors in most sentences	Errors in about 50 percent of sentences	From 1 to 3 errors	No errors

4. Did the speaker look at his audience?

1	2	3	4
_____			
Looked away most of the time	Looked at audience only 50 percent of the time	Looked at audience most of the time	Looked continually at audience

Source: From C. M. Lindvall and A. J. Nitko (1975). *Measuring Pupil Achievement and Aptitude* (2nd ed.). New York: Harcourt Brace Jovanovich (p. 220). Reprinted by permission of the authors.

**FIGURE 9.8** Example of an analytic scoring rubric for awarding partial credit to the computations arising in mathematics word problems. (The columns at the right show how the partial credits are distributed differently when the total points for the problem change from two to five.)

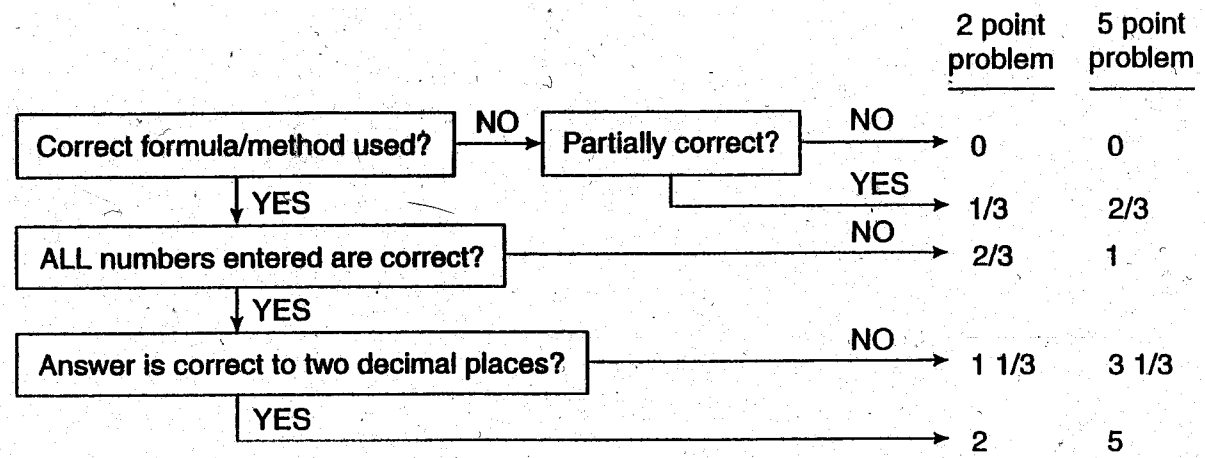
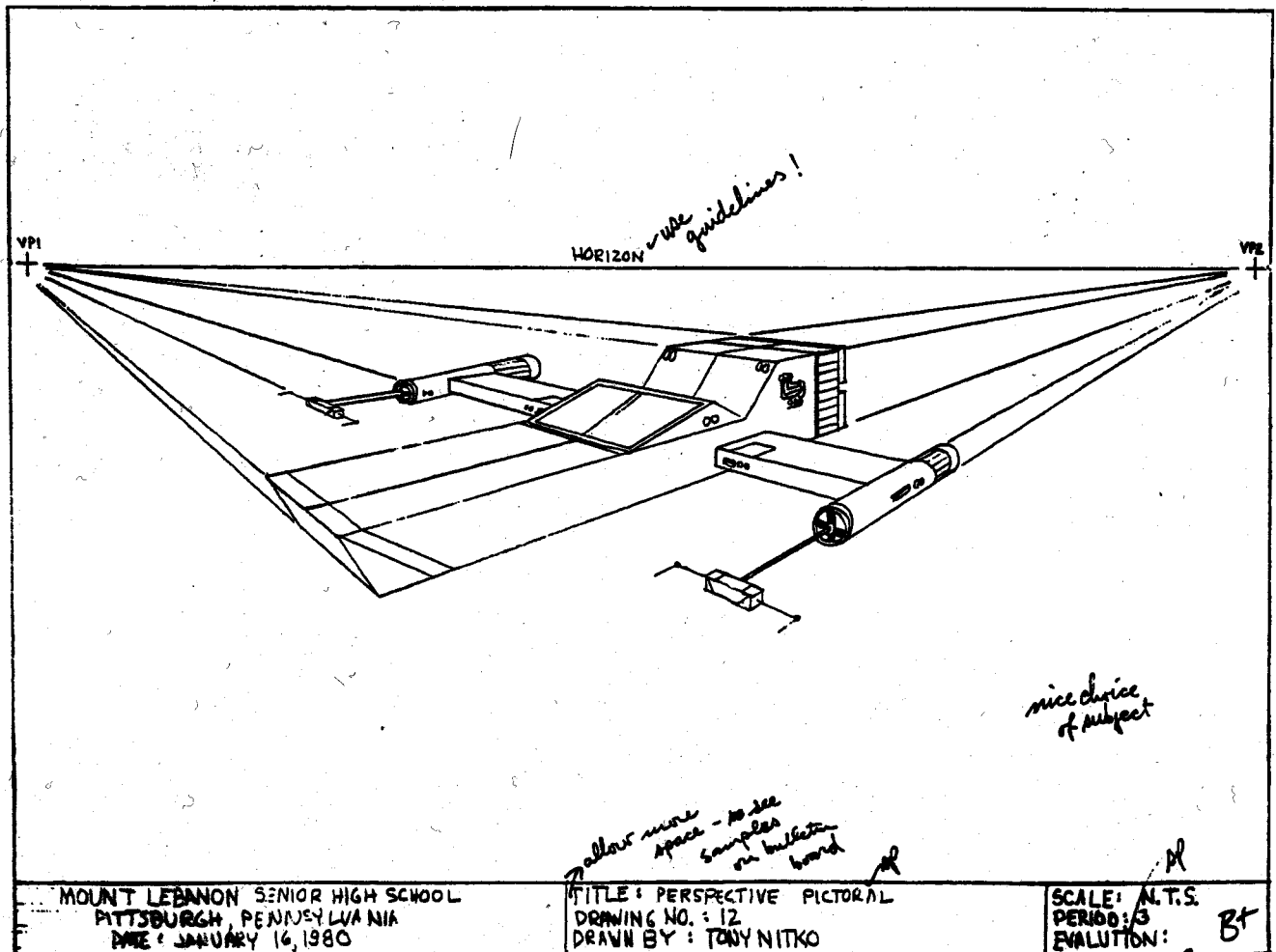


FIGURE 12.6 Example of an analytic rubric in the form of a numerical rating scale used to assess a student's technical drawing (i.e., product assessment).

CRITERIA OF DRAWING EVALUATION

- 8 TITLE BLOCK *take more time & care on your title block lettering.*
- 9 LINE TECHNIQUE
- 10 CENTERING AND SPACING
- ARCS, CIRCLES, TANGENTS
- SPACING OF DIMENSIONS
- PLACEMENT OF DIMENSIONS
- 7 FRACTIONS, FIGURES, LETTERING
- ARROWHEADS
- 9+ NEATNESS, OVERALL APPEARANCE
- 10 SOLUTION

TOTAL 53 AVERAGE \_\_\_\_\_ GRADE B+



Source: Rating scale by permission of Mr. Scott Patton, technical drawing instructor at Mt. Lebanon High School; drawing courtesy of Anthony Nitko Jr.

FIGURE 12.4 A checklist for assessing a student's performance in setting up and using a microscope.

Student's Actions	Sequence of actions		
a. Takes slide	1	au. Asks, "What do you want me to do?"	
b. Wipes slide with lens paper	2	av. Asks whether to use high power	
c. Wipes slide with cloth		aw. Says, "I'm satisfied"	
d. Wipes slide with finger		ax. Says that the mount is all right for his eye	
e. Moves bottle of culture along the table		ay. Says he cannot do it	19,24
f. Places drop or two of culture on slide	3	az. Told to start to new mount	
g. Adds more culture		aaa. Directed to find object under low power	20
h. Adds few drops of water		aab. Directed to find object under high power	
i. Hunts for cover glasses	4		
j. Wipes cover glass with lens paper	5		
k. Wipes cover glass with cloth			
l. Wipes cover with finger			
m. Adjusts cover with finger			
n. Wipes off surplus fluid			
o. Places slide on stage	6		
p. Looks through eyepiece with right eye			
q. Looks through eyepiece with left eye	7		
r. Turns to objective of lowest power	9		
s. Turns to low-power objective			
t. Turns to high-power objective	21		
u. Holds one eye closed	8		
v. Looks for light			
w. Adjusts concave mirror			
x. Adjusts plane mirror			
y. Adjusts diaphragm			
z. Does not touch diaphragm	10		
aa. With eye at eyepiece turns down coarse adjustment	11		
ab. Breaks cover glass	12		
ac. Breaks slide			
ad. With eye away from eyepiece turns down coarse adjustment			
ae. Turns up coarse adjustment a great distance	13,22		
af. With eye at eyepiece turns down fine adjustment a great distance	14,23		
ag. With eye away from eyepiece turns down fine adjustment a great distance	15		
ah. Turns up fine adjustment screw a great distance			
ai. Turns fine adjustment screw a few turns			
aj. Removes slide from stage	16		
ak. Wipes objective with lens paper			
al. Wipes objective with cloth			
am. Wipes objective with finger	17		
an. Wipes eyepiece with lens paper			
ao. Wipes eyepiece with cloth			
ap. Wipes eyepiece with finger	18		
aq. Makes another mount			
ar. Takes another microscope			
as. Finds object			
at. Pauses for an interval			
		<b>Skills in which student needs further training</b>	<b>Sequence of actions</b>
		a. In cleaning objective	√
		b. In cleaning eyepiece	√
		c. In focusing low power	√
		d. In focusing high power	√
		e. In adjusting mirror	√
		f. In using diaphragm	√
		g. In keeping both eyes open	√
		h. In protecting slide and objective from breaking by careless focusing	√
		<b>Noticeable characteristics of student's behavior</b>	<b>Sequence of actions</b>
		a. Awkward in movements	
		b. Obviously dexterous in movements	
		c. Slow and deliberate	√
		d. Very rapid	
		e. Fingers tremble	
		f. Obviously perturbed	
		g. Obviously angry	
		h. Does not take work seriously	
		i. Unable to work without specific directions	√
		j. Obviously satisfied with his unsuccessful efforts	√
		<b>Characterization of the student's mount</b>	<b>Sequence of actions</b>
		a. Poor light	√
		b. Poor focus	
		c. Excellent mount	
		d. Good mount	
		e. Fair mount	
		f. Poor mount	
		g. Very poor mount	
		h. Nothing in view but a thread in his eyepiece	
		i. Something on objective	
		j. Smearred lens	√
		k. Unable to find object	√

Source: From "A Test of Skill in Using a Microscope" by R. W. Tyler, 1930, *Educational Research Bulletin* 9, p. 494. Reprinted by permission.