DOCUMENT RESUME

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AUTHOR   Sommer, Sandra; And Others
TITLE   Reading Outside Micrometers. Courseware Evaluation
              for Vocational and Technical Education.
INSTITUTION   Ohio State Univ., Columbus. National Center for
              Research in Vocational Education.
SPONS AGENCY Office of Vocational and Adult Education (ED),
              Washington, DC.
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NOTE   9p.; For the basic evaluation form, see ED 244
              058.
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EDRS PRICE   MF01/PC01 Plus Postage.
DESCRIPTORS   *Computer Graphics; *Computer Software Reviews;
              *Courseware; Engineering Drawing; High Schools;
              Instructional Material Evaluation; *Measurement
              Equipment; *Technical Mathematics; Trade and
              Industrial Education
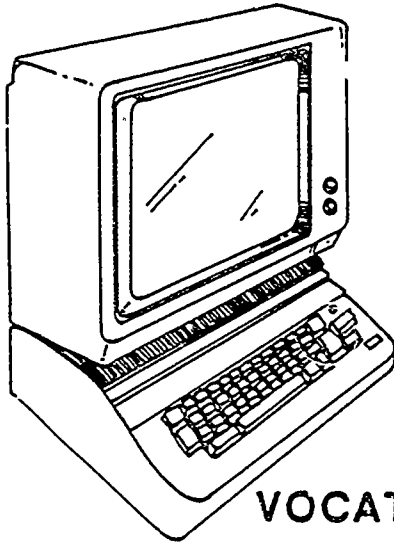IDENTIFIERS   *Micrometers

ABSTRACT
              This courseware evaluation rates the Reading Outside
Micrometers program developed by EMC Publishing Company. (The
program--not contained in this document--uses high resolution
graphics to illustrate the micrometer's components, functions, and
practical applications.) Part A describes the program in terms of
subject area and equipment requirements (Apple II and a micrometer),
indicates its suitability for use as tutorial or drill for grades
9-12, and gives a time estimate (45 minutes). Availability
information includes contact address. Part B contains the evaluation
criteria in eight categories; reviewer ratings appear as yes,
somewhat, no, and not applicable, with explanatory comments. Part C
summarizes the evaluation. Subject matter, technical presentation,
and student and program interaction received yes ratings;
documentation somewhat; and student evaluation a no rating. Reviewers
noted that the program is clearly presented at a good pace, but that
it does not give correct answers to questions incorrectly answered
and does not allow the teacher to change questions. The program is
recommended as reinforcement. (SK)

READING OUTSIDE MICROMETERS.

COURSEWARE EVALUATION

FOR

VOCATIONAL AND TECHNICAL EDUCATION

The evaluation of this courseware program was conducted by a team participating in the Courseware Evaluation Network. The Network, established in 1985, is coordinated by the National Center for Research in Vocational Education under the sponsorship of the U.S. Department of Education, Office of Vocational and Adult Education. The purpose of the Network is to identify and evaluate microcomputer courseware, and to disseminate courseware reviews for vocational and technical education.

Each Network team includes three members, at least one of which is, or recently has been, a vocational or technical teacher in the subject matter area of the courseware being evaluated. The evaluation represents a synthesis of the opinions of the team members. It is suggested that the evaluation be used as a first screening device for courseware and that the teacher also evaluate the courseware program on the basis of specific student needs.

The Courseware Evaluation: Form and Guide used for 11 of the Network evaluations was developed by the National Center and is available through its cost-recovery system.
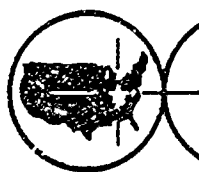
THE NATIONAL CENTER
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THE OHIO STATE UNIVERSITY
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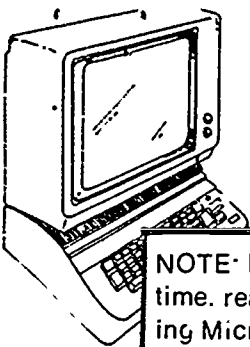
COURSEWARE EVALUATION FORM

NOTE· If you are using this form for the first time. read the instructions in the accompanying Microcomputer Courseware Evaluation Guide.

Evaluator __Sandra Sommer; James Goldstine;__

Position ___Earl Gates.___

Date___6/15/87___

Part A: Courseware Description

In the following sections. record descriptive information about the courseware that you are evaluating.

I. IDENTIFICATION

Program Title __Reading Outside Micrometers.__ Date ___1985___

Series Title _____

Vocational Area(s) __Trade and Industrial Education; Technology__

Subject Area(s) __Occupational Math__

Topic(s) _____

Developing Agency __EMC Publishing Company__

Street or P.O. Box __300 York Avenue__

City __St. Paul,__ State __MN__ Zip __55101__ Phone(800) __328-1452__

Author(s) __Kay Turnbaugh__

Programmer(s) __Kay Turnbaugh__

II. HARDWARE REQUIREMENTS

Microcomputer* __Apple II Series__
(brand/model)

K Memory Required __48K__
(number)

Medium of Transfer (include number of each):

— Tape cassette   __X__ 5¼" Flexible disk   — Other_____
— ROM cartridge   — 8" Flexible disk
                                                                                (specify)

Programming Language __Apple Software__ DOS Specifications __3.3__

Other Specifications _____

Peripherals Needed (check all that apply):

— Color monitor   — Modem   — Clock
__X__ One disk drive   — Mouse   — Video disk
— Two disk drives   — Printer   — Touch screen
— Plotter   — Graphics tablet   — Ten-key number
— Game paddle(s)   — Light pen   pad
— Joystick(s)   — Voice/sound   __X__ Other __Micrometer.__
                         instrument   (specify)

*NOTE· Provide the above information for any additional hardware on which this program can be used._____

_____

III. PROGRAM FEATURES (check all that apply):

___ Network version provided
___ Multiple copies required
___ Program can be modified

_X_ Program protected
___ Data disk needed
_X_ Field-test data available

IV. INSTRUCTIONAL SETTING

Program mode (check all that apply):

___ Application
_X_ Drill and practice

___ Educational gaming
___ Simulation

_X_ Tutorial
___ Other _____
(specify)

Student Target Population (check all that apply):

_X_ Regular
___ Disadvantaged

___ Handicapped
___ Limited English

___ Bilingual
___ Gifted

Grade Level (check all that apply):

___ K-6
___ 7-8

_X_ 9-10
_X_ 11-12

___ 13-14
___ Adult

___ Higher Education

Instructional Grouping (check all that apply):

_X_ Individual
___ Small group (up to 4)
___ La, group (4 or more)

___ competitive interaction
___ cooperative interaction

Prerequisite Student Skills (specify) ____ Basic Math _____

Accompanying Materials (specify types):
Documentation _____ Print _____

Student support materials _____

Teacher support materials _____

Correlated materials _____

Estimated Time for Use _____ 45 minutes _____

V. AVAILABILITY

___ Free _____
(copies)

___ Loan _____
(time)
___ Duplication (requestor supplies disk)

_X_ Sale S _____

___ Rent S _____ _____
(time)

Copyright Restrictions (explain) _____ Copyrighted. _____

Back-up Policy (explain) _____

Preview Policy (explain) _____

Update Policy (explain) _____

Contact _____ EMC Publishing Company _____

Street or P.O. Box _____ 300 York Avenue _____

City __ St. Paul, _____ State __ MN. ____ Zip _ 55101 ____ Phone (800) _ 328-1452 __

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Part B: Courseware Evaluation Criteria

Indicate the applicability of each section to the courseware being evaluated by checking either "___ A" (applicable) or "___ N/A" (not applicable). If a section is not applicable, proceed to the next section. If a section is applicable, check the column that indicates how well the courseware meets each criterion. Include any comments.

	YES	SOME-WHAT	NO	N/A	COMMENTS
I. SUBJECT MATTER __x A ___ N/A					
1. Subject matter has educational value.	X				
2. Student objectives are stated.	X				
3. Subject matter is accurate.	X				
4. Subject matter is logically presented.	X				
5. Subject matter is free of race, ethnic, sex, and other stereotypes.	X				
6. Subject matter is on the level of the students.	X				
7. Information and skills presented are comparable to those used in the home, business, or industry.	X				
8. Subject matter motivates students to learn.		X			
9. Subject matter is reviewed and summarized.	X				
10. Program utilizes the unique capabilities of the microcomputer to present the subject matter.		X			
II. TECHNICAL PRESENTATION __x A ___ N/A					
1. Program is free of technical problems.	X				
2. Presentation rate is adequate to maintain interest.	X				
3. Information on the screen is easy to read.	X				
4. Program is free of spelling and grammatical errors.	X				
5. Program instructions are easy to follow.	X				
6. Color increases the instructional value of the program.			X		
7. Audio increases the instructional value of the program.			X		
8. Graphics increase the instructional value of the program.	X				

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	YES	SOME-WHAT	NO	N/A	COMMENTS
III. STUDENT INTERACTION __x_ A ___ N/A					
1 Students can use the program with minimal assistance.	X				
2. Students are actively involved in the program.	X				
3. Students control the pace of the program.	X				
4. Students can access the program "menu(s)" to change activities.	X				
5. Students are permitted to change answers.	X				
6. Methods of responding correspond to the level of the program.	X				
7. Students' errors of entry are processed so that the program continues to run.	X				
8. Students can access available "help" and "hint" options at any time.		X			
9. Students can enter or exit the program as desired.	X				
10. Students control the sequence of the program.	X				
IV. PROGRAM INTERACTION __x_ A ___ N/A					
1. Feedback is immediate.	X				
2. Cues and prompts are provided to assist students in answering correctly.	X				
3. Feedback reinforces the correct responses.	X				
4. Feedback is nonthreatening.	X				
5. Program helps students understand wrong answers.		X			
6. Program gives the correct answer after a reasonable number of tries.			X		
7. Positive reinforcement is varied.	X				
8. Program has the ability to branch/loop depending upon students' performance.		X			Review
9. Feedback is on the level of the student.	X				
V. STUDENT EVALUATION ___ A __X_ N/A					
1. Evaluation provides a means for measuring attainment of objectives.					
2. Program reports which items were missed and which were correct.					

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	YES	SOME-WHAT	NO	N/A	COMMENTS
V. STUDENT EVALUATION—Continued					
3 Individual student performance results are available to the teacher.					
4. Class performance results are available to the teacher.					
5. Program provides for printed copies of evaluations.					
6. Test item formats are suited to the material being tested.					
7. Test items are clearly stated.					
8. Test item bank is provided.					
VI. DOCUMENTATION X A ___ N/A					
1 Documentation is easy to understand.		X			
2. Documentation is accurate.		X			
3. Student objectives are stated.	X				
4. Underlying concepts are outlined.			X		
5. Skills to be developed are specified.	X				
6. Procedures for integrating the program into the curriculum are provided.			X		
7. Follow-up activities are suggested.			X		
8. Documentation explains the intended use of support materials.				X	
9. Sufficient information is provided to operate the program.	X				
VII. WORK BEHAVIORS ___ A X N/A					
1. Program helps students identify their vocational skills.					
2. Program promotes pride in work.					
3. Program promotes productivity.					
4. Program encourages good work habits.					
5. Problem solving is encouraged.					
6. Program promotes good human relations skills.					
7. Program provides an opportunity for work satisfaction and self-fulfillment.					
8. Program encourages creativity.					

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	YES	SOME-WHAT	NO	N/A	COMMENTS
VIII. APPLICATION PROGRAMS ___ A _X_ N/A (to be completed for application programs only)					
1. Program is adaptable to the needs of the student.					
2. Commands are easily remembered.					
3. Information is easily manipulated.					
4. Corrections are easy to make.					
5. Program includes all necessary variables.					
6. Program performs reliably.					
7. Program efficiently achieves its intended purpose.					
8. Trial data are supplied for learning to run the program.					
9. Program provides for use of printer when hard copy of information is advantageous.					
10. Program moves from operation to operation efficiently.					
11. Program is compatible with other application programs.					
12. Program has a supplementary tutorial program available.					

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Part C: Courseware Evaluation Summary

1. SUMMARY COMMENTS

Identify strengths of the courseware:

    Clearly presented and pace good.
    Good for Topic Reading Micrometers.

Identify weaknesses of the courseware·

    Does not give correct answers to questions incorrectl;
    answered.

    Does not provide teacher opportunity to change questions.

Describe uses of the courseware in an instructional setting:

    Drill and practice; tutorial.
    Good for reinforcement.

2. SUMMARY OF SECTION

Rate the quality of the courseware for each applicable section of this form by checking the appropriate column; if not applicable, check N/A.

	YES	SOME-WHAT	NO	N/A
I. SUBJECT MATTER: Content has educational value.	X			
II. TECHNICAL PRESENTATION: Program is free of malfunctions.	X			
III. STUDENT INTERACTION: Students are actively involved with the program.	X			
IV. PROGRAM INTERACTION: Feedback is effectively employed.	X			
V. STUDENT EVALUATION: Evaluation adequately measures student progress.			X	
VI. DOCUMENTATION: Documentation is sufficient to run the program.		X		
VII. WORK BEHAVIORS: Program assists students in developing positive work attitudes and skills.				X
VIII. APPLICATION PROGRAMS: Program performs the task for which it is intended.				X

3. FINAL RECOMMENDATION

Check your recommendation for the courseware and explain your reasons below.

    ___ Highly recommend   ___ Recommend with reservations
    _X_ Recommend   ___ Do not recommend

_____

_____