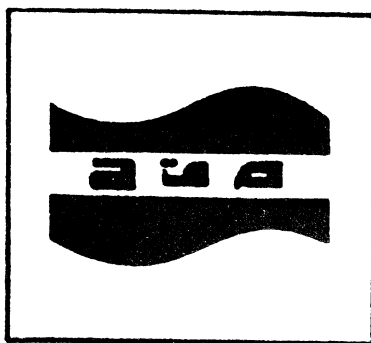


**SUB-REGIONAL INFORMATIVE SEMINAR ON:
"COMPUTER APPLICATION IN EDUCATION"**

14 -16 NOVEMBER 1987
Baghdad, Iraq



THE ECONOMIC AND SOCIAL COMMISSION
FOR WESTERN ASIA
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ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA

Seminar on Computer Application in Education
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SOFTWARE EVALUATION
GENERAL OVERVIEW

UNESCO

Regional Office for Science and Technology
for the Arab States (ROSTAS)

The opinions expressed in this paper are those of the author and do not necessarily reflect those of the United Nations Economic and Social Commission for Western Asia.

I. STUDENTS' PRINTED MATERIAL

1. Do the questions provide an adequate framework for students' activities not involving the program?
2. Do the questions provide an adequate framework for students' use of the program?
3. Is the prerequisite knowledge of the questions adequately covered:
 - a. in the printed material itself
 - b. by being deducible from the program
 - c. otherwise?
4. Is the language used appropriate to the age/ability of target students?
5. Are the illustrations adequate?
6. Could the layout be improved?
7. Are there particular points of difficulty/confusion?

II. TEACHERS' MATERIAL - DOES THIS ADEQUATELY PROVIDE

1. A statement of objectives?
2. A statement of the level and prerequisite knowledge?
3. A statement of the rationale for the unit, its scope and limitations?
4. Suggestions re use of material in class, classroom organizations, etc.
5. Warnings of places likely to give student difficulty?
6. Warnings about program limitations?
7. A statement of the computer model and assumptions made?
8. References to other sources, etc.?
9. Hints or comments on questions in the student material?
10. Suggestions for extensions or increased flexibility?

III. PROGRAM

1. What, if any, failures occurred?
2. Are there unhelpful/misleading messages?
3. Does the program have a structure which makes it easy/convenient to use?
4. Are students puzzled by the display or uncertain what is expected of them?
5. Could the display of information be improved?
6. Is essential information lost from the display at any time?
7. Do changes in the display happen too quickly or too slowly?
8. Was the program used by students or as a class demonstration?

IV. MATERIAL DESCRIPTION

1. Title:
Source:
Materials:
Date of this outline:
2. Subject and Specific Topic
3. Educational Aims
4. Advantages of the use of this material
5. Prerequisites on the part of the student
6. Student involvement
7. Time of involvement
8. Computing facilities
9. Stage of development
10. Further information

Perhaps the most appropriate approach to the problem of providing information is to ask the question: What would teachers like to know about a piece of CAL materials? This is a questions which posed to a number of groups of teachers in recent years in two contexts. The first was in relation to a single page summary for

inclusion in a file containing a unit of material. Its purpose was to speed up the task of teachers in reviewing the material themselves. The file contains a number of such summary pages and each teacher using the unit is asked to contribute a personal review. The page is kept simple in the hope of encouraging as many contributions as possible. The items on the pro-forma are:

0. Title, target student, intention
1. Initial information
2. Teacher support material
3. Student material
4. How the material was used
5. Was the intention achieved?
6. Student motivation
7. Problems in use/foreseen
8. Would you use it again?
9. General comments

The second review framework has arisen from the inclusion of reviews of materials in a new journal in the field. An attempt is being made to produce rather more formal reviews than those usually found in magazines and journals without an excessive burden of evaluation being placed on the teacher-reviewers. Another important aspect of this review process is to respond rapidly to newly published materials and yet include the experience of classroom use, not in contrived situations but in the normal pattern in which various topics are taught.

V. PREVIEW

1. Technical block to include statement based on publisher's information and the physical material itself.
 - a) Title
 - b) Subject/topic
 - c) Age range
 - d) Publisher/date
 - e) Originator
 - f) Extent
 - g) Price
 - h) Copyright status
 - i) Hardware needs

2. Educational content/mode, stated aims/intentions and pre requisites (cf. author/publishers statements on range etc.)
3. Ease of use/flexibility
 - How easy to get initial flavor
 - Open/closed style
 - Ability to select parts of package
 - Repeated use by students
4. preparation time
 - To become fully familiar with the package
 - To create (additional) student/other material
5. Printed material
 - Structure, clarity, validity, possible extension
 - Help to teacher in obtaining flavor
6. Software
 - Amount of text, reading level
 - Screen images
 - Consistency
 - Use of codes/symbols
 - Hardware requirements

VI. REVIEW

1. Personal experience of classroom context - mode of use.
2. Student reaction/interaction - motivation.
3. Student time - in preparation; at the machine; in follow up.
4. Problem in use.
5. What cognitive experience does the reviewer believe students underwent?

As reviewer's circumstances, type of school, etc., are bound to flavor both preview and review, a short one-line profile of each reviewer will be contained in the journal. In this way it is hoped that an interpretation of the reviews will be possible for teachers in quite different types of school, something missing from current practice.

VII. CONCLUSIONS

No paper on the value of education materials for use with micro-computers can be complete without reference to the learners. However, the observations I wish to make on this are rather brief and, as they form key conclusions to the preceding discussions, they are included here.

The emphasis here has been made on materials which form resources for learning. The aims of teachers in using such materials may be behavioral, cognitive, or some mixture of the two. Evaluation will be rarely appropriate and it is my view that teachers themselves are the only judges of the value of various resources for their students. During my time as a teacher of laboratory based science to students, I was left in little doubt about the value of the experiments and investigations which my students undertook.

Some failed to 'work' for the majority of the class, others failed for a portion of the class, others promoted interest, discussion and inquiry. With experience of teaching those students, it did not require a formal evaluation study to indicate to me which investigations were valuable for the students. One major demand was in preparation time, time to explore the material for myself and be at least reasonably equipped to anticipate difficulties which students might encounter. Time is in short supply for most teachers and a priority for developers, disseminators and trainers must be to assist teachers in formulating strategies by which they can make judgments on the value of material in a rapid and reliable way. I am coming to the conclusion that there is no such thing as good or bad material, rather there is material which is of value to a teacher with a certain class and material which has little or no value in that situation. Only one person can make that decision.



