The Art of Using Audio-Visual Aids in Accounting Education

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Outline of Address

1. Widespread use by the Armed Services during World War II has demonstrated beyond doubt that audio-visual training aids do make learning easier.

2. Careful evaluation by qualified experts indicates that the *proper use* of audio-visual aids offers the following advantages to the students:

(a) Learn more. Tests show that audio-visual aids help students to learn more in a given time.

(b) Remember longer. Tests show that facts learned are remembered longer.

(c) Increase interest. Audio-visual aids command attention and stimulate interest, and thereby motivate students to learn.

(d) Increase confidence. Audio-visual aids may help to remove mental obstacles to learning, by increasing the confidence of the student in his ability to master a difficult topic.

3. Audio-visual aids offer these advantages for the following reasons:

(a) They broaden the sensory experience of the learner.

(b) They strengthen visual images.

(c) They provide vicarious experience. They offer the sensation of experience which is not possible to gain in the classroom, and which is outside the realm of prior background.

(d) They add variety. This stimulates learning.

(e) They assist the slower student in learning. The instructional aid can remain before the student or be referred to until he has mastered the subject. Spoken words fade away.

(f) They demonstrate to the student the practical value of the subject matter being taught.

4. Despite these proven advantages, there has been resistance to the wider application of audio-visual aids in civilian education. Much of this resistance is founded upon an incomplete understanding of the nature of audio-visual aids. There are certain common fallacies:

(a) Fallacy that an audio-visual aid is a substitute for a teaching method.

(b) Fallacy that the use of audio-visual aids means less work for the instructor.

(c) Fallacy that audio-visual aids are necessarily expensive.

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This is the outline of an address presented by Mr. Hume at The First Annual Conference on Accounting Education held under the auspices of the Division of General Education, New York University, on October 19, 1951.

(d) Fallacy that the merit of audio-visual aids lies in their entertainment value.

5. Actually, an audio-visual aid is a supplement to a teaching method—not a substitute for it. Some of the common teaching methods are:

(a) Lecture.
(b) Directed discussion.
(c) Demonstration.
(d) Group performance.
(e) Coach and pupil instruction by students.
(f) Role playing.
(g) Case study.
(h) Question and answer.

6. The competent instructor selects that particular teaching method which he considers most effective in view of the training situation. He then selects that particular audio-visual aid which best reinforces that teaching method.

7. The elements in the teaching situation are:

(a) The students. Their attitudes, aptitudes, prior experience, etc.
(b) The instructor. His competence; personality; knowledge of the laws of learning; skill in instructing; attitude towards the students, etc.
(c) The subject matter to be taught. There are three types of learning which may be involved. The goal may be
  (1) To convey knowledge. This refers to cognitive knowledge.
  (2) To develop skill. This may be physical skill, social skill, or intellectual skill.
  (3) To impart attitudes.

8. The application of this analysis to accounting education is apparent.

(a) Knowledge. The accounting student must master an aggregation of facts.
(b) Skill. He must also learn "how to do it." Herein lies the validity of the dictum that "Accounting is learned at the point of a pencil."
(c) Attitudes. The student who aspires to become an auditor must cultivate attitudes of wholesome skepticism, accuracy, directed curiosity, etc.

9. The analysis given above is sufficient to explode the second fallacy; that the use of audio-visual aids means less work for the instructor. On the contrary, the proper utilization of audio-visual aids requires a great deal more time, ingenuity, and careful scheduling on the part of the instructor. The instructor must

(a) Preview the aid. He must see the film, listen to the recording, examine the chart, etc. He consults the accompanying study guide. He may spend a great deal of time thus studying aids which he subsequently rejects as inappropriate.
(b) Schedule use of the aid. This involves preparation of the classroom, arranging for a projectionist, screen, film, or whatever other material may be involved.
(c) Careful integration of the aid with the lesson plan. The class must be prepared. The aid must be concealed until the appropriate moment. It must be presented without fumbling. It must be followed-up with a discussion, a test, or other application of the knowledge gained.

10. Unless all of this is done, the presentation will be amateurish rather than professional. This means more preparation for the instructor, and more learning for the student. This is as it should be. The students are investing their tuition and their time to buy learning. It is the instructor's obligation to assist the students as effectively as he can.

11. The secret of success here is *preparation.* This can make a poor instructor adequate, and an average instructor outstanding.

12. Thus, it is apparent that audio-visual aids need not be expensive to be effective. For example, a carefully

planned chalk talk will be much more effective than an expensive full color motion picture which has been selected without much planning.

13. Each type of audio-visual aid has its advantages and its limitations. Some of the aids which we will briefly discuss are the following:

(a) Motion Pictures

Films for instructional purposes are 16 mm. They may be in color or black and white. They may be sound or silent. Sound films should *never* be run on a silent projector.

Advantages:

(1) They portray and simulate actual life situations. Therefore, an effective means of imparting attitudes.

(2) Motion pictures have pleasant emotional associations. This inherent interest motivates the student to be in a receptive frame of mind.

(3) With the permission of the film sponsor, motion pictures can be edited to portray the exact message required, leaving out material which is irrelevant for the educational purpose in mind.

Limitations:

(1) Hazard of merely passive acceptance on the part of the student.

(2) Temptation to use a movie, merely because it is available, rather than as a part of definite objective.

(3) Temptation to show movies for their entertainment value rather than educational content.

(4) Require a trained projectionist.

(5) Require screen, darkened room, projector, etc.

(6) Motion pictures are expensive to produce locally.

An experiment with motion pictures in accounting education

Last year the New York Chapter of the National Association of Cost Accountants conducted a forum under the title, "Armchair Plant Visits." This consisted of motion pictures depicting the processes and the equipment used in a particular industry. The film showing was subsequently followed by a speaker, familiar with the industry, who explained the cost accounting and cost control techniques of that industry.

It was found that the motion pictures offered the following advantages over actual plant visits:

(1) Audiences included more than 100 at several meetings. A guide cannot explain operations to more than ten visitors at a time in an actual visit.

(2) Factory noise makes explanations difficult to hear.

(3) Stragglers delay the whole party in an actual plant visit.

(4) Films eliminate the time lost in traveling to and from the plant and in traveling between the various processes.

(5) Films overcome the barrier of distance. (For example, it is not practical to take the group from New York to a Texas oilfield.)

(6) Films permit viewing dangerous processes or dirty processes without hazard.

(7) Films permit viewing processes in logical sequence, regardless of the plant layout.

(8) The camera can slow down fast action for study, or speed up slow processes.

(9) Intricate or highly technical processes can be explained by means of animation. Internal functions can similarly be portrayed.

(b) Filmstrips

A roll of still pictures arranged in sequence. 35 mm. They may be in color or black and white. They may be silent or they may be accompanied by a recording which explains the pictures on the strip. Usually accompanied by an instructor's manual.

Advantages:

(1) Image can be projected for prolonged observation and discussion.
(2) Instructor can use illuminated pointer or projected arrow to point out features on the strip.
(3) Strips of film are compact for easy storage.
(4) Less expensive than motion picture equipment.
(5) Filmstrips can be prepared locally. They are less expensive to produce than motion pictures, yet more expensive than slides.

Limitations:

(1) Do not portray motion. (However, they may be used to portray a series of ideas of events without action.)
(2) Sequence of illustrations is predetermined.
(3) Requires operator, screen, partial darkness, etc.

(c) Slides

Usually 2" x 2" or 3¼" x 4". May be color or black and white.

Advantages:

(1) Equipment is inexpensive.
(2) Slides are inexpensive and easy to prepare locally.
(3) Flexible. Slides may be run in any sequence.

Limitations:

(1) Hazard of getting slides out of sequence.
(2) Slides are less compact than filmstrip.
(3) Glass slides subject to breakage.
(4) Require screen and partial darkness.
(5) Require projectionist for instructor to be fully effective.

(d) Overhead Projector for Transparencies

Various models accommodate various sizes of transparencies up to 10"x10". May be color or black and white.

Advantages:

(1) Unnecessary to darken room while projecting. (Hence students may take notes.)
(2) Instructor controls the slides. No separate projectionist needed.
(3) Instructor faces class. Does not lose the face-to-face contact.
(4) Instructor can write or draw on the slide while it is being projected.
(5) Various techniques of "flop-over" transparencies available for added effectiveness.

Limitations:

(1) Necessary to prepare transparencies.
(2) Transparencies more bulky than filmstrips or slides.
(3) Older models of this equipment sometimes emit a glare into the instructor's eyes.
(4) Requires screen.

(e) Opaque Projector

Will project any picture, map, or diagram—in color—on the screen.

Advantages:

(1) Easy to prepare material locally.
(2) Can project page from a book.
(3) Very flexible.

Limitations:

(1) Requires some darkening of the room, and a screen.
(2) Requires an operator in addition to the instructor, for effective presentation.

(f) Blackboard

Familiar to everyone.

Advantages:

(1) Availability. Every classroom has one.
(2) Completely flexible.
(3) Has unsuspected potentialities. Colored chalk. Chalk talks with simple cartoons and sketches.
(4) Not necessary to darken room.

Limitations:

(1) Instructor writes with his back to the class.

(2) Drawing of complicated illustrations should be done before class starts, so as to avoid wasting class time.

(3) Distracting effect of material on board, after the point has been discussed. (Or need for frequent erasing by instructor.)

(g) Easel and Pad

An alternative to the blackboard. Writing is done with colored crayons instead of chalk.

Advantages:

(1) Can prepare illustrations before class, yet present to the class in flop-over style. Thereby effectiveness is retained.

(2) Can easily remove material by tearing off the sheet, or by moving to a new page.

Limitations:

(1) Expense of replacement pads.

(h) Flannel Board

Sandpaper backed illustrations adhere to the flannel. Principal value is that it dramatizes the presentation. Must be carefully planned in advance, and not very flexible.

(i) Pictorial Aids

Great variety here. Flow charts are extremely valuable in the teaching of accounting procedures.

(j) Models and Real Objects

Used extensively in auditing case history courses. One college used to obtain the books of bankrupt concerns after the proceedings in bankruptcy had been completed. These actual books were then used in the auditing laboratory, giving a flavor of authenticity.

How Much Education Can an Accountant Use?

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have employed. From this point of view I have some knowledge of accounting education and a keen appreciation of its strength and weaknesses.

There is a certain general background of experience, knowledge and method that, in the long run proves to be the most useful and most necessary to a successful accountant. Among the early leaders of the profession in this country were men who had had the advantage of the British system of classical education. They could not use their classical education directly in their work. However, the grasp that these men, with their broad background of knowledge, had of their work made their influence on the profession in general deep and profound, both in an ethical and technical way. The broadly educated man who has mastered his technical means will be the leader of the profession tomorrow. While we do not know exactly how the schools will produce this type of man, I assure you that the school which adheres to this ideal most closely will be the school which is doing the best job for its students, for the profession and for the school itself.