SYSTEMS CLEARINGHOUSE: A RATIONALE

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The confusion that can arise during the selection of a learning system — either in hardware or software — can bring about the end of involvement with educational technology. The advantages of a learning system are too often lost within the myriad details that must also be considered during the evaluation-selection period. A learning system should be a union of hardware and software which fulfills the maximum number of desired educational objectives with the greatest versatility, ease and durability. Both "wares" would be fully interactive and so generate the same problems. No distinctions, therefore, will be made between them.

The first difficulty arises from the quantity and variety of learning systems available. This variety¹ works against technology and the educator by creating a vast field from which choices are to be made when too often there are apparently only minimal differences among the various entries, or on the other hand the differences have been made so glaringly important as to make selection even more difficult. When systems are very similar a person can easily rationalize and settle for any one quickly and without an in-depth examination; when the differences are great a person might settle simply because he can't select. Of course, budgets and deadlines are always around to help one make the wrong choice. Moreover, distributors and manufacturers frequently don't provide a potential user hands-on experience with the product. Time and distance very often make it impractical to examine established installations and to interview current users in order to fully investigate the effectiveness of the product. Even if one were able to reduce the field to a few which might fill the estimated needs, their representatives attempt to assure buyers that their way is this case, the educator feels that it might be best to allow a technician to select a system that will last long enough to minimize the impact of the initial cost. However, the technician is often not assisted by the educator in his search, and so he might choose technically good machines but an educationally pooy system. For example, the technician might overlook an all-start for the student recorders to be used during testing, or he might not see the need for an audio-active-record system with separate tracks for the student and master voices. From the technician's point of view these would be justifiable omissions, since the simpler the system the easier the maintenance. On occasion the educator hands the technician a utopian list of system requirements, many of which might be technically impossible, or whose incorporation into the

Systems Clearinghouse

system would make it unnecessarily complicated and expensive. Very often the educator does not know what his objectives should be or what the various functions of a learning system can be. This may be due to a lack of awareness or because the expedient of time has not allowed him proper investigation. The educator's input may also be founded on published views comparing or contrasting theories or types of systems and not necessarily on the evaluation of a *specific* system based on hard data for that educator's *specific* needs. Examples of this would be the on-going examination of DAIRS, the "cassette", etc. These controversies are too often poorly substantiated with objective data and the views expressed can sway a person away from what might best fit his needs, simply because his personal knowledge might not extend to the many varieties and refinements which can exist for a system.

The establishment of attitudes is another area in which problems can arise. This does not refer solely to student users, too often the instructor is intimidated by the complexity of the system or else by the possibility that it might replace him. Then the system lies in disuse; money and time will have been wasted, the educator is not availing himself of valuable tools and the student is being deprived of a total learning experience. Cognizance of the versatility of systems and of available methods of use might easily bring about the educator's faith in the learning resources.

A fuller awareness of the varieties and capabilities of learning systems and their role in the attainment of educational objectives is required. A learning system is a tool which can interact among student-subject-teacher either passively or actively as desired by the programmer and user. The possible combinations of interaction are almost limitless depending on hardware, software, objectives, time and imagination. Now we have further complicated learning systems by adding the factor of methodology in stepping from selection to use.

Charles Hoban has rightly said: "We need much more and much deeper conceptual analyses of our technologies, both in their formative and in their operational stages. As of today, many of our 'innovations' are based on ad hoc conceptual chaos and that's why so many of them fail.

We need to seek out systematic malfunctions and dysfunctions and their sources in our instructional system, as well as anticipated excellence of the systems we are researching. The whole truth is rarely sought and more rarely told."²

Although media and instructional technology are often accused of having created a many-tentacled monster, the popularity of learning systems has not diminished. On the contrary, it can truth-

Systems Clearinghouse

fully be said to have increased. Programmed instruction, the audiocassette, the video-cassette, computers, instructional programs for the home user via public media, audiovisual self-learning courses available through mail-order and department stores, etc., that is, readily accessible learning packages of all manners and shapes in all subject areas attest to the interest that has been generated in learning systems. An item in *Educational Broadcasting* stated that "spending for audio-visual media has more than tripled in the past 10 years, according to *Hope Reports AV-USA 1972*. Product sales in 1972 amounted to \$1.4 billion, up from 1962 sales of \$432 million. In that period software sales went from \$337 million to over \$887 million, a 163% gain. Equipment sales rose from \$95 million to almost \$544 million, an increase of 472%."

And though the *language* laboratory may no longer be as popular as it once was, in many instances the Director has wisely expanded its scope and the same hardware has become a *learning* laboratory with support for such non-language subjects as mathematics, psychology, and home economics. Whether this new role grows out of a need to justify the laboratory's existence or it reflects a sincere desire to facilitate and assist instruction and learning is not important; of importance, rather, is the impetus that this transformation has given to spreading the use of learning systems. Increasingly, educators from less media-oriented areas, such as biology, chemistry, music, are becoming interested in technology as offered in a laboratory or instructional resources setting as opposed to A/V services classroom support.

Despite the increased popularity and sales of learning systems it would seem that the research done by the producers and by the consumers is very inadequate. The very first words of the "Second ERIC/AVCR Annual Review Paper" inform us that: Substantial amounts of funds are wasted each year on the purchase and installation of products that later prove to be inappropriate or ineffective."4 It would appear that this fate befalls learning systems due to lack of extensive and informative evaluation which could have eliminated waste or might recycle currently misused installations. The selection and use of learning systems could be assisted by the formation of a center that would house and disseminate information provided by producers and consumers of the various systems. This storehouse could then be tapped by any persons wishing information on specific systems from others who might have extensive and documented experience with a particular system. This could help to eliminate blind faith or blind distrust in the producers. It could help to lesson the undocumented generalities found in most publications

by placing the seeker in touch with a *real* user who could give concept answers to questions. The existence of such an information center could stir the producers to further technological and content advancements, and it could cause a tightening of quality control. For the consumer it would help expand his market awareness so that he could have more exacting specifications in order to insure meeting his precise needs, thereby making his selection easier. This dissemination point could also widen research sources in order to facilitate academic and technological discussion. This information center would also provide sources for anyone seeking new parts or tasks for a system, a new distributor, or merely a suggestion on content application by someone using the same learning system.

Such an information center is currently being established by the NALLD (National Association of Language Laboratory Directors) in cooperation with the Individualized Learning Laboratory at Queens College. At first it will be limited to Language Laboratories and their hardware systems. In time a questionnaire (in preparation) will be distributed that will cover other types of laboratories or media instruction in order to augment the center's holdings and diversify systems information. A third phase is planned which will cover methodology. The center will also attempt to store the catalogues of program holdings of the participating members. All of the information will be updated periodically in order to include the most recent changes and acquisitions.

It is hoped that this will put an end to many of the problems confronting present and potential users and producers of learning systems, by offering a mutual acquaintance who will facilitate their communication so that fewer moves will be made in confusion.

Footnotes

¹As an example of the variety available: the 19th edition of Audio-Visual Equipment, (Virginia: National Audio-Visual Association, 1973-74), lists 1715 products by 550 manufacturers.

²Charles F. Hoban, "A Current View of the Future of Theory and Resaerch in Esducational Communication," Audiovisual Instruction, 19, No. 1 (January, 1974), 35.

3"Press Conference," Educational Broadcasting, 6, No. 5 (Sept.-Oct. 1973), 31.

4Eva L. Baker and Marvin C. Alkin, "ERIC/AVCR Annual Review Paper: Formative Evaluation of Instructional Development," AV Communication Review, 21, No. 4 (Winter 1973), 389.

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