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ABSTRACT
        The theories and objectives in the uses of the media
available to Social Work Education, currently and in the future, are
surveyed in this paper. The theories covered are those which relate
to all media in general, but special emphasis is placed on those
which have an impact on the theoretical approaches for teaching,
experimentation and research. The paper first considers the entire
area of communications and communications systems. It then points out
the value of the evaluation, feedback and validity concepts. The idea
of goal orientation and its related concept, system flexibility, are
defined. Learning thrust and impact--the particular point of
information one wants to intrude upon the thinking, perception or
integration facilities of the learner--is defined and discussed. The
paper concludes with a set of axiomatic principles to serve as
guidelines in the use of media. (JY)

THEORY AND EDUCATIONAL OBJECTIVES IN THE USE OF

NEW TEACHING MEDIA

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This paper presents an overview of the theories and objectives in the uses of the media available to Social Work Education currently and in the future.

Media

It would be completely futile and irrelevant to discuss particularistic theory related or pertaining to, any one of the newly developing, or newly developed, media. It is assumed that the reader is familiar with classical and au'current learning theories. In addition, the extent and range of media do not lend themselves to a complete discussion or delineation of the empirical experimental work done by various researchers in any one area of theory development and model construction.

The following list is self explanatory in regard to the quantity and complexity of the task of attempting to be theoretically specific in relation to all of the media available to the educator:

1. Computers, information retrieval systems, telephonic computerized information retrieval systems, random access systems, etc.

2. Television of various kinds, including network and closed circuit, video taped materials, instructional and educational television (including trunk line, microwave, and satellite transmission).

3. Programmed materials, including textbooks, language facilitators, etc.

4. Microfiche, slides and opaque projection, etc.

5. Film, film chains and loop films, etc.

6. Books and printed material.

7. Audio equipment, audio tapes, telephonic audiotaped educational material, recordings, etc.

8. Radio, radio lectures, etc.

9. Telephonic communications, including tele-lectures, telephonic consultation service, etc.

10. Visual display media which includes flannel boards, display boards, etc.

11. Lectures, seminars, etc.

12. Laboratories.

The extent and diversity of the media specified above is so varied and wide-ranging as to preclude any attempt to explore a single theory in relation to any media or group of media in particular. This paper discusses those theories which relate to all media in general with some specific emphasis on what our work has found to be the most productive of the theoretical approaches for teaching, experimentation and research purposes.[1]

Communications

The first consideration is the entire area of communication and communication systems. It should be noted that any media utilized for educational purposes (that is, those purposes which attempt to transmit a set of concepts that have inherent in them certain communicational contexts and content), are essentially communicational systems and subsystems in and of themselves. They also possess surplus meaning values in and of themselves. Marshall McLuhan demonstrates extremely well that "the medium is the message" and that the form or modality of the communicational system is in itself a communication.[2]

That is, the fact that visual media (such as film, closed-circuit television, etc.) are used to convey information indicates the very nature of the importance of the receptor mode of the message. Therefore, if filmed pictures of interview behavior are shown as opposed to audio tapes of the same interviews we must be aware that a sub-communicational message, about the nature of visual observation, is being sent simultaneous or concomittant to the general lexical and psychological context of the interview. It might be noted here that we, in our culture, have great difficulty in presenting conceptual learning materials, in any meaningful way, in any but the audiologic mode since our culture is

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[1] At the present time work is being done on the effects of media in the Multimethods-Video Laboratory of the School of Social Work, University of Wisconsin, Madison under N.I.M.H. Grant T21-MH-11128.

[2] McLuhan, Marshall; Medium is the Message, in McLuhan, Marshall, Understanding Media: The Extension of Man, McGraw-Hill, 1966, p. 21.

pretty intensely imbedded in the reception of audio messages as com-
pared with any other type of message transmission. Current research
has found that audio-visual inputs (that is, messages or communications
sent via the audio-visual channels which are not simply two channels of
communication but more probably four) have the highest yield in terms
of informational bits available to the receiver. I am not referring so
much to "informational bits" as described and defined by computer spe-
cialists or information specialists. I define, for our purposes, in-
formational bits to be collectivities of concepts which have some
meaning in and of themselves, but which have greater structural and con-
textual clarity when taken in context with other complementary bits.
What we, as learners or receivers, seem to be lacking is a message
transmittal or communicational system which will allow us to en-code or
translate the messages sent simultaneously via these two channels of
communication. Research demonstrates that we lack the ability to trans-
late, that is, make sound psychological sense, out of audio and visual
messages sent simultaneously. It is, in fact, the affective-cognitive
problem revisited. The translation or transliteration of what we hear
is often in contradiction with what we see at the same time. We have
few concepts or ways of thinking to adequately deal with these confusions
in meaning.

One additional note is required in regard to the nature of com-
municational systems and media; and that is, that if there is one axio-
matic statement which can be made about communicational systems and com-
munications in general, it is that "there is no such thing as a non-com-
munication."[3] Watzlawick, et.al. has investigated the nature of
communicational systems and has developed a position which states roughly
that the modality in which or by which the communication is offered is in
itself a communicational mode, and that when one is investigating the con-
tent of communication, one also has to investigate the context of communi-
cation in order to completely understand the communications being sent.[4]
Consequently, and it is obvious to all, that one would not use a computer
for the same purposes for which one would use a flannel board, and that in
planning (and we shall talk about this later) for the educational use of
either or both types of media, one must keep in mind the educational pur-
poses for student learning. A direct part of communication systems and
communicational theory related to the learning of educational concepts are
the notions or theories involved in multiple input-output variables.[5] In
more current research, in the areas of the social psychology of communi-
cation, it has been noted (and I referred to this earlier) that one cannot
have single channel communication. Even when the communication is audio-
logic, for instance, it has several levels or channels of communicated
intent and content. If an audiologic message about the nature of relation-
ships of worker-client interaction is being sent, the attendant or listener,

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[3] Watzlawick, Paul, et.al., Pragmatics of Human Communication; W.W.
Norton, N.Y. 1967, pp. 48-9.

[4] Ibid., p. 50.

[5] Rossi, Peter H. and Bruce J. Biddle, et.al. The New Media and Education;
Aldine, Chicago, 1966, pp. 29-32.

responds not only to the verbal-conceptual content of the message sent but simultaneously to the decibel frequency, tonality, impact, etc., of the way in which the message is sent. Similarly, one cannot ignore such variables as style, that is, linguistic style or lexical style and we know very little as yet about the optimum styles of vocal levels, etc., for learning. We do know from some of the recent Bell Telephone Laboratory studies on compressed speech that one can computerize message input variables and in so doing, cut out extraneous noises, that is, the final "g click" sounds on such words as going, coming,etc., without losing the intrinsic content of the message sent. It has been noted in these experiments that standard monotonal transmissions, conceived of here as input variables, do not diminish the learning - conceptual learning, that is - of the message sent.[6]

Evaluation, Feedback, Validity

When media, such as audiologic media or visual media are employed the fact must not be overlooked that there are not only outstanding overt messages, or communications, being sent, but that there are also several orders or degrees of attendant or surplus communications involved. Namely, those things that were previously referred to as multiple input-output variables form a heirarchy of interlocking messages and contents. In keeping with the work being done on input-output variables is some current research based on the notions of evaluation, feedback, and the validity of communications involved in any of the media utilized for teaching purposes. Consider evaluation first. When a communication is sent it contains with it a demand characteristic for the receiver. The message sent must be evaluated at the point of reception. The media utilized for transmission of the message bears a kind of value onus in terms of the credibility that one attaches to that particular modality employed. For example, the transmission of a message about the practice of social casework bears more credence when presented by Helen Harris Periman than when presented by Saul Alinsky. Similarly, a printout related to the nature of data from a Control Data-3600 computer, tends to have more credence for a social scientist than would a similar type of statement made by a Mickey Mouse cartoon on the screen. This is not to say that the message in both instances would not be inherently the same and inherently valuable, but rather that the evaluative mode employed by the receiver is directly related to the credibility of the media. That is, the learner would negate, or at least diminish the value of the message sent in one instance as opposed to the other.

The second theoretical point in this area has to do with feedback; namely, the extent to which the receiver is able to obtain information about his own reception of the information sent from the media itself.[7] The concept of "feedback" to be the most crucial, not only in terms of media employed in Social Work education but in terms of all professional learning. Since we are so intensely concerned with the learning of

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[6] Rossi, Peter H. and Bruce J. Biddle, et.al. The New Media and Education; Aldine, Chicago, 1966, p. 73.

[7] Ibid, pp. 139-140.

conceptual materials, skills, and values as well as the modification of
personal behavior in keeping with professional models, we must pay more
attention to informational feedback as a primary source of learning. In
teaching a course in elementary statistics, it is much more advantageous
to use linear and branch programmed materials than it would be to use a
set of films showing statistical concepts. The reason for this is very
simply that the individual is able to obtain feedback from a set of pro-
grams in which he can check, cross check and offer himself feedback
about his own learning ability as opposed to a set of films which moves
quite rapidly before him and which offers him little, if any, chance of
appraising his own individual position in the entire conceptual learn-
ing process. There are instances in which a particular medium, because
of its high feedback potential, offers a learning handicap rather than
advantage. For instance, the use of videotaped lists of data, statis-
tics, and figures about the actual costs involved in the administration
of the Social Security program in 1968. Its use of feedback potential
is nill, it becomes boring quickly, and creates frustrating apathy. A
"hot" medium, to borrow from Mr. McLuhan - that is a medium which re-
quites individual group participation in learning should be considered
in this instance. In this case one would attempt to couple visual pre-
sentations with mimeo handouts and telephone conferences with M.E.W. ad-
ministrator responsible for the programs around which learning is to take
place.

The third area, in relation to communication and communicational
systems, has to do with the validity of the media used in keeping with
the nature of the information to be attended to or learned. Here again
the priority of the medium is related to the nature of the materials to
be learned.[8] It is relatively useless to use telephonic communication,
or tele-lectures, to attempt to teach a course in art appreciation. The
validity of the concepts presented over telephone about art materials
must certainly be held in question, if not contempt, in a culture in
which visual imagery pertaining to art seems to be the standard operating
procedure for learning about art. Similarly, highly schematic flannel
board displays, loop film characterizations, or slide project animations
may have very little relevance to certain kinds of learnings related to
highly idealized conceptual thought pertaining to philosophic notions
of Martin Buber.

Goal Orientation and System Flexibility

The validity of the reception of messages is extremely dependent
upon the importance of the media being utilized. The notion of goal
orientations for the various media to be used in the educational process
is extremely important. Goal Orientation refers to a sort of "general-
specific" set of learning teaching goals that the educator has in mind
when he selects material to be learned. After the material to be learned
is selected, the goal orientations are appraised and evaluated (in terms

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[8]
Lee, Dorothy, "Lineal and Nonlineal Codification of Reality",
in Explorations in Communication, Ed. by E. Corpenter and M. McLuhan,
Beacon, Boston, 1966, pp. 142-7.

of the goodness of fit for purposes of professional education) then the
educator must evaluate the mode, feasibility, economic and physical ease,
etc., with which his material can be employed in the context of any one,
or combination of, media. The notion of goal orientation is related to
another notion which has to do with system flexibility. System flexibi-
lity refers to the ability of any one media system to serve multiple pur-
poses or multiple teaching-learnings simultaneously.[9] Because of the
complexity of, and involved in, the use of any media, each medium must be
considered a system unto itself. Each medium has all of the characteristics
of an operational system:

1. distinguishable units of operation (hardware or software)

2. distinguishable interrelationships between these units of operations

3. direction and purpose

4. a social context (in this case, the learning context)

5. and the ability to achieve personal involvement within the system

In reality, media are actually sub-systems within the greater context of
the particular school's educational system. A videotape of a community
group discussing a local problem can be utilized by research learners to
explore the possibility of researchable problems or by methods learners.
To try to better understand group processes, the nature of movement in
groups, and so on. Similarly, a recording concerning an individual in-
terview serves the purposes of teaching interviewing but might also serve
the purpose of communications analysis, and/or the purposes of the analysis
of value and belief systems inherent in interactions between worker and
client.

Media or teaching systems must serve multiple purposes since their
expense and complexity is such as to render them relatively out of reach
should they be utilized for only single specified kinds of approaches to
teaching. In keeping with this, it should be noted that the richness of
learning for the learner is only enhanced when he is able to make multiple
use of the material and systems employed for his learning because it taxes
his understanding and creative abilities simultaneously.

Thrust and Impact

There are some uses of media which at first, seem superficial but are
somewhat more complex when one attempts to employ them in a meaningful way.
These notions relate to the concepts of "teaching thrust" and "teaching im-
pact", or more appropriately, "learning thrust and impact".[10] Verbal
descriptions are difficult since the notions of thrust and impact stem

9 Op. cit., Watzlawick, pp. 120-132.

10 Perlmutter, Morton S. and Gary Gumpert, "An Analysis of An Instructional
Television Approach to the Teaching of Social Work Methods", Social Work
Education Reporter, Vol. XIV, No. 1, March, 1966, p. 19-47.

peculiarly from audio-visual media, but are nevertheless generalizable to all media. The notions of thrust and impact have to do with those particular point of communication which one wants to intrude upon the thinking, perception, or integration facilities of the learner. An example is probably best taken from the work being done for the last several years in the use of instructional television and videotape feedback in the learning of new behaviors in graduate Social Work education at the School of Social Work, University of Wisconsin.[11] The instructor, behind the camera, employs his clinical judgement in determining which picture (he has at his disposal three cameras and, therefore, three pictures) he will take of the students before him who may engaged in interview behavior, role play behavior, group process behaviors, etc. The instructor must make clinical judgements, namely-sometime in the future a playback of the videotape he is currently cutting will be made. First he is functioning as a teacher, or more appropriately, as a learner's assistant, as it were. He must be aware of the <u>thrust</u>, the learning or teaching thrust, that particular observation by the student, of himself and his behavior, will make on himself. As an illustration of this phenomenon; a colleague was recently observing a group in action. A member of the group remained relatively silent for an extensive period of time. At some point the observer focused on the student, videotaped a rather long segment (which in videotape terms can amount to one minute). On the playback the student was able to see and hear (by her silence), and literally feel, the lack of participatory responsiveness connoted in her behaviors. Here the thrust or impact was in terms of self-behavior and brought about at least some thinking and efforts in that area. The concepts of thrust and impact can be generalized to any of the other media areas about which we have spoken and should be regarded as significant parts of your considerations for the use of the material involved in the use or uses of any of the media. In keeping with this, it must be remembered that when referring to the learner we are referring to an organism which is operating with a set of responses, in the context of a response system to the kinds of messages or communicational systems which it is assumed he will receive. Therefore, we must attend to the fact, that in order to successfully achieve impact or thrust, one must employ relatively novel, creative, divergent kinds of stimuli or stimulus systems around which learning revolves. Work, in the use of media for professional learning, has led to the conclusion that learning does not operate as a medium of incorporation of that which is taught. Rather, learning "revolves" around areas to be learned. Students do not learn only that which is presented, such as historical dates alone, but also many kinds of incidental data about the teacher, the context, etc. Consequently, when trying to learn interview skills, such as question-asking, the learner must also learn or become aware that he is learning about relationships, manner of dress, vocal intonation, and other bits of qualitative and quantitative data.

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[11] Perlmutter, Morton S. and Gary Gumpert, "Field Instruction and Group Process: An Experiment in the Use of Television", <u>Social Work Education Reporter</u>, Vol. XV, No. 3, Sept. 1967, pp. 26-29.

Axiomatic Principles

The following axiomatic statements, about some principles of learning related to media, serve as principles in the use of media:

1. Students enjoy learning when they learn about things which are relevant to their past or present circumstance, problems or difficulties, when learning is meaningful, significant and timely in terms of their own concerns.

2. Because individuals differ so much in so many ways, learning experiences should provide a maximum diversification of materials and activities and of ways of evaluating what has been learned. Interest, ability, needs and concerns are cues to individual learning.

3. Students with disadvantages like most learners prefer to be active learners rather than passive receivers. They often respond to opportunities to dramatize, to role-play or to pantomime.

4. Students are more likely to enjoy learning if they are able to help others or associate with others in learning experiences.

5. Students find learning experiences more satisfying when they participate in defining what they are trying to learn and in judging their success in learning it.

6. Students enjoy learning experiences most when they are provided frequent opportunities to express themselves in a variety of ways, physically, intellectually, and emotionally in speech, drama, art form and creative compositions.

7. Students are likely to enjoy learning if they are permitted the widest possible freedom of choice and cirricula emphasis, learning materials and learning activities. Much that most interests and concerns many learners, whether or not they are disadvantaged, lies in areas, considered controversial or dangerous to public education to consider. Civil rights, war, juvenile delinquency, sex, law enforcement, school practices, etc.

8. Students experience special satisfactions and gratifications in terms of learning emphasis when their work gains the recognition of others, especially their peers. Such recognitic does not have to be achieved in purely competitive activities

9. Learning activities and experiences are peculiarly
    satisfying and mastery and retention are promoted when
    students are encouraged to discover for themselves
    important relationships, inter-relationships, and
    principles.

10. Students experience satisfaction when they realize
    that they are needed - when they can perform in roles
    of real significance, when they can help others in
    meaningful ways. The utilization of all teaching -
    learning media can be, and should be, aimed and
    oriented at these axiomatic principles.

There is a tendency, on the part of social work educators to view
media as gimmicks or secondary to the importance, often overesti-
mated, of the teacher's message. It can only be stated that involve-
ment in the utilization of teaching media creates a certain kind of
humility about the importance of the messages we have to send.