DOCUMENT RESUME

ED 075 332

SO 005 891

AUTHOR   Thayer, Lee; And Others
TITLE   Toward a Reconceptualization of Knowledge Utilization
                in Education. Volume 3. Final Reports of Pilot
                Studies. Final Report.
INSTITUTION   Iowa Univ., Iowa City. Center for the Advanced Study
                of Communication.
SPONS AGENCY   National Center for Educational Communication
                (DHEW/OE), Washington, D.C. Div. of Practice
                Improvement.
PUB DATE   Jan 73
CONTRACT   OEC-0-72-0243(519)
NOTE   134p.

EDRS PRICE   MF-$0.65 HC-$6.58
DESCRIPTORS   Audiovisual Communication; *Communications;
                *Information Dissemination; Information Systems;
                Information Theory; *Information Utilization; *Pilot
                Projects; Program Descriptions
IDENTIFIERS   Educational Resources Information Center

ABSTRACT
                Final Reports of nine project studies emphasizing
knowledge utilization in education are comprised in this volume.
Descriptions, rationale, conclusions, notes and references, and
summaries are given for each of the specific projects and dealing
with: 1) awareness and knowledge utilization (emphasis was placed on
the Educational Resources Information Center (ERIC) system, its
services, and products); and with development of 2) a film prototype;
3) a prototype of an instructional package to improve student and
teacher communication competencies; 4) educational "news" audio tape
cassettes; 5) a magazine for educators; 6) film loops containing new
information designed for an informal environment; 7) a learning game
prototype; 8) a "natural" history of ideas approach to knowledge
utilization; and 9) a commercial or Public Broadcasting System
television experiment. Related documents are ED C61 468, and SO 005
889 through SO 005 896. (SJM)

Final Report

Contract No. OEC-0-72-0243 (519)

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TOWARD A RECONCEPTUALIZATION OF KNOWLEDGE UTILIZATION IN EDUCATION

Volume 3 of 8 Volumes

January, 1973

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Office of Education

National Center for Educational Communication
(Division of Practice Improvement)

FINAL REPORT: PILOT STUDY #1

Awareness and Knowledge Utilization

Project Coordinator: Tom Deats

Summary

This project was designed to be a prototype of an "informa-
tion" or advertising campaign directed toward educators, promoting
various U.S. Office of Education information services and products
and the ways in which these might be useful to educators. For
purposes of this study, emphasis was placed upon the Educational
Resources Information Center (ERIC) system, its services and
products. The major hypothesis of this study was that educators
would not actively seek out "information" from such systems as
ERIC even though they were aware of the system and its services.
Various advertising and promotional techniques were considered for
development and use in this study including direct mail, posters,
and the production of an 8mm animated film for use in a film loop
machine. The major hypothesis, primarily because of limited
testing, was neither confirmed nor denied by the results of this
study.

Rationale and Description of Study

From a study of the various newsletters, brochures, booklets,
etc., of the ERIC system clearinghouses and their related Regional

Labs, Material Centers, and Research and Development Centers, it was noted that many of those involved in the development and dissemination of educational research information assume that increased awareness in the "target audience" is closely related to increased utilization. This often appears to be stated as both a necessary and sufficient condition for information and innovation utilization.[1] It was to test the viability of such assumptions that this pilot study was developed.

An implicit if not always explicit assumption behind such views is that awareness of an "information" system can by and large be equated with approval of such a system. For example, the low levels of utilization of particular information systems are often viewed as problems which could be "solved" largely by simply developing awareness of the system in the target audience (e.g., school teachers). The hypothesis of this study was that even if they were "aware" of the existence and services and products of ERIC, this awareness would not "significantly" increase the utilization of the system by educators.

In short, awareness of the ERIC system is not likely to be a sufficient condition for utilization of that system. Indeed, it might not even be a necessary condition if "awareness" is conceived of only in terms of a highly rational cognizance.[2] While the necessary condition for "awareness" of an educational data system may be mass media promotional "messages," the sufficient condition inheres in the importance of such a system to a particular epistemic community.

Because so many attempts have been and continued to be made
to advertise such data systems as ERIC on the assumption that
awareness necessarily leads to utilization, this study was developed
to use similar methods (e.g., mass media) to question and test the
validity of such assumptions. Originally it was planned to direct
a multi-media campaign advertising ERIC to school teachers and other
educators. However, due to several factors, including the inability
to develop a satisfactory means or method of "measuring" utiliza-
tion which would rise above the level of merely totaling requests
for data, these various approaches were not fully developed or
exploited. Two direct mailings of a specially prepared brochure
about ERIC, an 8mm animated film for use in a film loop machine
were developed, along with several designs for posters. These
latter products were not field tested, however.

Direct Mail Campaign

Two different mailings of a brochure (see attached copies)
were made. The text of the brochures was based upon that developed
and utilized by the ERIC document reproduction service (EDRS)
contractor, Leasco.

The first mailing was made in February to all public school
principals in the Iowa City school district (N-21). Included as
part of the brochure was a coupon-like section which could be filled
out and returned by the recipient if he or she was interested in
obtaining additional information regarding the ERIC system. The

returns of these information requests were used to "measure" the response to the mailing. Of the 21 school principals who received the brochure in this first mailing, 4 returned slips requesting additional information.

A second, more extensive mailing was made on a state-wide basis to principals selected from a list containing all of the state's high schools--public and private. In all, 281 brochures were mailed to Iowa high school principals randomly selected from the original list of more than 500. There were 24 slips returned requesting additional information.

All requests for additional information were forwarded to the ERIC system and a spot check among the principals requesting information indicated that they had received literature regarding the ERIC system.

The low level of response to these two ma..ings cannot necessarily be interpreted as confirming the major hypothesis, for the low response may only be an indication of the limited appeal of such traditional mail campaigns or that many of these educators were already "aware" of the ERIC system. The data does not, on the other hand, deny the validity of the major hypothesis.

8mm Film Production

To a great extent the majority of the attempts to advertise such "information" systems as ERIC have been limited to the print media, such as brochures, newsletters, etc., and in some cases,

film strips with recordings. But such approaches tend to require, in varying degrees, expenditures of time and effort on the part of educators to acquire and utilize any data contained in them. Therefore, it was thought that the development of an animated, sound, color film packaged in a film loop cartridge for use in a projector in the faculty lounge of schools, main offices, class-rooms, etc., might be a device which would not only be easy to use, but would be accessible to every teacher in a school and would enable the presentation of "information" about ERIC to break out of the more static and linear printed formats.

A two-minute color animated film with sound utilizing quick cuts of still photographs and "messages" about ERIC was made. Production problems precluded field testing this film in an adequate manner and thus no valid data on its "effectiveness" are available. Ideally, however, several such film loops could be mass produced and distributed on a wide basis much as printed materials are now presented. Limitations of the present study did not, of course, permit mass production. The film which was made for this study can, however, serve as a prototype for the creation of other such film loops.

Poster Designs

Several poster designs were developed for possible testing through distribution by local media centers. The posters were designed in such a way that the final product could range in size

does not "match-up" with the views of education and teaching held
by many teachers. This, then, is a strategic difference in orien-
tation, and is by and large not "solvable" by tactical communication
programs such as advertising campaigns.

The "relevance" of the ERIC materials for many teachers is
largely different from the relevance of the same materials for
those people who contribute to and operate the ERIC system. There
are numerous studies which clearly indicate that the mass media
do not greatly contribute to change or alteration of people's
opinions on matters considered significant and vital by those
individuals.[3] Mass communication persuasion methods are most
likely, according to the empirical evidence, to reinforce existing
opinions of individuals rather than change them.[4]

Any attempt to change a teacher's views of the ERIC system
and educational research data, or to merely "inform" teachers of
ERIC and similar systems, must deal with strategic factors--and
these cannot, for the most part, be "reached" through mass media
campaigns wherein the "messages" may differ greatly from the
existing communicational realities of the target audience. And
human communicational realities are created through people talking
to one another. What ERIC (for example) "is," and what its values
may be, are created not by mass-produced "messages," but only in
and through conversations within specific epistemic communities.
Thus the necessary condition for "awareness" of ERIC may be some
promotional "messages," but the sufficient condition inheres in

the importance and relevance of such "messages" for people in a given epistemic community.

People are more likely to utilize those data and "information" systems which appear to be useful to them. Thus one can try to "match" the "messages" about ERIC (for example) with the existing communicational realities of teachers, or attempt to alter the strategic communicational realities of teachers to "fit" the existing "messages" about ERIC. The first might possibly be accomplished through the use of mass media techniques and mass produced "messages," but the latter task--that of altering strategic communicational realities--can largely be accomplished over relatively long periods of time (if at all) through the ways people invent to talk about their world and their relationships to that world.

Given the above, it appears that the most effective use of mass media techniques and mass produced "messages" would be in those areas wherein the "messages" match or agree with the strategic views of the audience rather than in attempts to alter or change those strategic views. Mass media techniques are most likely to be useful in "changing" relatively non-strategic or non-vital viewpoints and thus could (and do) encourage change in fashions and fads. Thus, educational "information" dealing with non-strategic fashionable teaching practices might possibly be rather effectively "marketed" through mass media technology if such "information" does not deal with the vital questions of the "worth" or "value" that such practices may have for education.

PS-7

from small desk top "models" to larger wall posters. The rationale of these designs was that such posters could serve as an effective medium of "communication" within school systems. For example, posters could be distributed through local media centers on a demand basis, or simply included with materials such as films which have been requested by schools. This portion of the pilot study was not field tested primarily because no adequate "test" or measurement of the "effect" of such posters short of those which would require governmental approval could be developed in the time available.

Conclusions

One of the biggest and most difficult problems in this area is the development of a satisfactory test instrument which will give an indication of the "effectiveness" of promotional campaigns. As noted earlier, from the communication point of view of this study, the sufficient condition for "information" utilization always inheres in the salience of the "information" for a specific epistemic community in time and location. The traditional approaches to "testing" the impact of "information" in or on an audience largely fail to take into account the ways in which people in a given epistemic community talk about what is important to them in that community context.

For example, at present it appears that the ERIC system people have a view of education and public school teaching which

Notes and References

[1] See Everett M. Rogers, Diffusion of Innovations (New York: The Free Press, 1962); and Ronald G. Havelock, Planning for Innovation Through Dissemination and Utilization of Knowledge (Ann Arbor: Center for Research on Utilization of Scientific Knowledge, Institute for Social Research, The University of Michigan, 1971).

[2] Robert Mason, "An Ordinal Scale for Measuring the Adoption Process" in Studies of Innovation and of Communication to the Public, Studies in the Utilization of Behavioral Science, Vol. II, ed. by Elihu Katz, et. al., (Stanford, California: Institute for Communication Research, Stanford University, 1962), pp. 101-116.

[3] See, for example, Joseph T. Klapper, The Effects of Mass Communication (Glencoe, Illinois: The Free Press, 1960); Bernard Berelson and Morris Janowitz, eds., Reader in Public Opinion and Communication (Glencoe, Illinois: The Free Press, 1950); Elihu Katz and Paul F. Lazarsfeld, Personal Influence (Glencoe, Illinois: The Free Press, 1955); Carl I. Hovland, Irving L. Janis, and Harold H. Kelly, Communication and Persuasion (New Haven: Yale University Press, 1953); Carl I. Hovland, et. al., Experiments on Mass Communications (Princeton, New Jersey: Princeton University Press, 1949); Bernard Berelson and Gary A. Steiner, Human Behavior: An Inventory of Scientific Findings (New York: Harcourt, Brace & World, Inc., 1964); and Elihu Katz, et. al., Studies of Innovation and of Communication to the Public, Studies in the Utilization of Behavioral Science, Vol. II, (Stanford, California: Institute for Communication Research, Stanford University, 1962).

[4] Klapper, op. cit., pp. 49-50.

FINAL REPORT: PILOT STUDY #2

Development of Film Prototypes

Project Coordinator: Lee Thayer

For the past several years, those of us associated in this
project have used and assessed the usefulness of most of the
available films on "communication," as "communication" relates
to the production, distribution, and consumption of information.
While many of these films are useful in getting across certain
aspects of the process, most are not useful in getting across
other, equally fundamental, aspects of the process. For example,
the way in which "communication" is typically related to controlled
or manipulated "change" distorts certain important aspects of the
way in which "communication" is related to non-controlled change.[1]

At the same time, we have long felt that alternative views
of the "communication" process might be indirectly effective in
facilitating or enhancing the efforts both of those who produce,
distribute, and consume educational "knowledge," and those who
would help them to do so. On this basis, and to this end, we
undertook to make a short, inexpensive, animated prototype film
which we anticipated would present some basic dimensions of that
alternative in a meaningful way.

The first version of this film was developed, and reviewed and
assessed (in limited use) in July, 1972. (The script is presented as

Appendix A of this report; a copy of the film is also being made available to NCEC as part of our final report on this project.) On the basis of reactions to this first prototype, we diagnosed several shortcomings and needed modifications. A second version of the film was thus being developed.

In this second version, we believe this short film would have value in the training of educational "extension agents," and other specialists and consultants. The main idea of the film (entitled "This Thing About People") is that once a person has a "workable reality" in his own mind about something or someone outside of himself, that "workable reality" will stand in the way of his seeing a better alternative, or of considering a better alternative offered to him. To the extent that the film is effective, we believe that its use could help its users vicariously to experience one of the central "barriers" to innovation and further "knowledge" utilization, and therefore to discuss in a systematic and rational way what might or should be done about it in particular circumstances.

Thus the film could be used in the training of educational extension agents, and could then be used by them in discussing human, organizational, technical, and economic "barriers" to knowledge utilization in specific school systems.

This second version of the film was completed in mid-January, 1973. Thus, though we have had little opportunity for systematic assessment, feedback thus far suggests that the film could be quite effective if properly used, and we recommend further development of it, along with a user's guide, for possible use in several of NCEC's programs.

Notes and References

[1]See, e.g., Lee Thayer, "On Communication and Change: Some Provocations," Systematics (Vol. 6, No. 3), December, 1968, pp. 190-200.
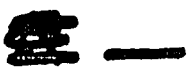
"This Thing About People"

Scene opens, long shot of main charac
walking across broad open space with
bright sun overhead, two or three wic
spaced trees casting shadows. MC swe
hot, mopping forehead. He is obvious
Stone-Age man in costume.

He walks through shadow of tree, stop
on the other side, scratches his heac
in wonder and walks on. Walks throug
shadow of next tree, gets on far side
scratches his head and backs into the
shadow. Obviously pleased by the coc
comfort of the shadow, lays down besi
rock and goes to sleep.

Shadow moves as time passes and sun r
in sky, MC awakens hotter and more ur
fortable than before. Gets up in fur
and goes over and starts kicking the
trunk of the tree.

MC turns and walks toward camera, cos
changes with every step or two from
Stone-Age to Greek toga to Black Midc
Ages peasant garb to a fancy roccoco
style to Elizabethan style and reache
face-on the camera in modern dress.
Talks directly into camera. (Begins
talking as he begins walking toward
camera.)

ndecipheral muttering.

IC: That's the way it all began. Things
iaven't changed much over the years.
here's this something about people.
hey get a notion in their heads about the
ray things are or ought to be, and if it
:urns out the world doesn't fit their
iotions of the way the world is, they
iegin to try to kick it into shape.

Oh, you don't see many people going
iround kicking trees any more--at least
iot without steel-toed shoes or a
iulldozer. But it's still that way with
ieople. We still kick people around--
ir try to--when they don't behave the
ray we think they should. If the other
iuy doesn't fit our image of him, we
:hink there's something wrong with him.

As I say, there's this something
ibout people that makes us that way.
;hat's probably why the way we think
ibout communication leads us into more
iroblems than it solves. It wouldn't
iave to be that way. If we understood
:his thing about people, we'd think
ibout communication differently, and

Have him do things in his diffe:
costumes as he moves forward in this
monologue.

then lots of things would be quite
different.

Sometimes I have these fantasies
about how different things would be
if people really understood this
thing about people, and what it means
for the way we think about communication.

But let me show you what I mean.
For example, this is the way things went
at my house this morning:

Wife: mutters.

Wife: mutters.

Wife: Another lousy day.

Appropriate beautiful day music.

MC: It's a beautiful day.

Wife: That's all right for you to say,
you're a man.

MC: What is that supposed to mean?

Wife: Oh, just forget it, you wouldn't
understand anyway.

Boy: You are, too!

Girl: I am not!

Boy: You are so!

Girl: I am not, I am not!

Wife: What do you want for breakfast—
eggs or oatmeal?

MC: Oh, I guess I'll have eggs.

Wife: What's the matter, don't you like
my oatmeal any more?

Scene: Bed, wife getting up. Goes to
scale.

Goes to mirror to comb her hair. Every
time she combs it down it twangs back.

Goes to kitchen in slouch and grump,
where MC is sitting at table.

MC goes to window and looks out, sun
shining, birds singing, flowers and trees
in blossom, etc.

Two youngest kids come chasing and
fighting each other through kitchen.

They go off scene as pitch and pace of
voices increase.

During all of this, wife is slouching
around, preparing eggs, banging pots
and pans and

From off scene: voice of oldest
daughter: Motherrrrrrrrrrrrrrrr!!

Wife: (shouts back) What is it!
(grating voice)

Daughter shrieks: I'm totally and
utterly destroyed! My life is ruined!
I promised Andy I'd eat with him at the
cafeteria today and my pink blouse is
dirty!

Wife shrieks back: Well what'd ya want
me to do about it? If you weren't such
a slob, you'd have your stuff when you
needed it.

Daughter's voice: (whining and crying)
But Motherrrrrrrrrr!

Wife: Stop being so dramatic and get   bangs plate of eggs down in front of MC.
down here for breakfast. You're going
to be late for school.

Kitchen sounds, television sounds,
sounds of the two young children still
hasseling each other, and sounds of   Scene fades out with shot of MC's expres-
elder daughter still anguishing in the   sion over the plate of eggs.
background, and wife still muttering.

MC: Well, that's the way it was at my   Scene: Same face-on of MC as before.
house this morning. But, like I say,
it wouldn't have to be that way. I keep
having this fantasy that if people
understood this thing about people and
thought about communication differently,
things would be a lot different. If--
well, let me show you what I mean.......

(Same basic sequence of scenes as before.)

Wife: mutters.

Wife gets out of bed, goes to scales.

Wife: mutters.

Wife goes to mirror, tries to comb hair,
it twangs back up, etc.

Wife: Another lousy day.

Wife goes to kitchen where MC is at the
table.

MC goes to window looks out, same beautiful
scene and sound effects as before.

MC: In what way?

Wife: Look at my hair, and look at that,
gained three pounds in the last week.

PS-15.

MC: I guess that wou.. e enough to make a person miserable--if a person thought those were the most important things in his life this particular day. I feel great today, and it's beautiful outside.

Wife: That's easy enough for you; you've got your teaching and people appreciate what you do, and it's just different with a man.

MC: It is? If you're miffed about the way you look, that doesn't stop the sun from shining. You look great to me.

MC puts his arms around wife and nuzzles her.

The two younger children come running through as before.

Boy: What would you know about it, you're just a dumb, stupid girl!

Girl: Well, your friend Cindy is a girl and you don't think she's so dumb and stupid!

Boy: Well, she's different!

Girl: So am I.

They go off as before, but muttering in apparently conversational tones.

Wife: What do you want for breakfast, eggs or oatmeal?

MC: You're the one who's having trouble making the day measure up. What do you feel like?

Wife: Well, I can't see how a pan full of mushy oatmeal is going to help the way I feel very much.

MC: Eggs it'll be then.

Daughter shrieks: Motherrrrrrr!

Wife: Would you watch these eggs, dear, I just have a hunch what her problem is, and it isn't going to get any better by long distance.

Wife goes off. Voices of mother and daughter, unintelligible, discussing something off stage.

Sounds of TV in background, younger children still talking.

MC dishing up the eggs as scene fades.

Two younger children, older daughter go out back door with school books in hand. MC with briefcase in hand, nuzzles wife affectionately.

MC: See you soon, have a good day.

Wife: It is kind of a pretty day.

Wife looks at sun, birds, etc. (same as before). Standing in doorway with back to audience.

Superimpose MC face-on as before.

MC: See what I mean? Like I say, there's this thing about people, and if we don't understand that we end up getting ourselves in all kinds of communication troubles, and play all sorts of silly communication games. Oh, I don't mean that wars are silly, but maybe they're unnecessary. The communication games people play! The things they get themselves into. Well, lemme show you what I mean. I'm a teacher, see, and the sorts of things we teachers get into.... Well, lemme show you what I mean. This is the way it was at my school this morning....

MC: First, there was this scene in Miss Beaufort's mathematics class....

Scene of typical classroom of junior high kids doing the conventional things, making the conventional ruckus, etc.

Background of classroom noises and teacher talking over them, but unintelligible.

Miss Beaufort notices John, one of the students, not paying attention.

Miss B: John, you're not paying attention.

John: mutters....

Miss B: What did you say? (sharply)

John: I said, who cares about this dumb stuff anyway?!

Miss B: That'll be enough out of you, young man or it's off to the principal's office.

John: mutters something under his breath. Fading into typical classroom noises with teacher droning on again.

MC: Then there was this scene in my own current events class....

Scene: Back to MC face-on.

Typical noises and ruckus.

1st student: Well, I don't think he's a good president! I think he's made all sorts of bum decisions.

2nd student: Where do you get off with that stuff? Everybody knows he's one of the best presidents we ever had. Just because he's had the toughest decisions to make......

3rd student: Well, according to Walter Cronkite......

4th student: What does Walter Cronkite know! That's no way to determine whether the president's foreign policy is any good or not.

MC: How do you think we should decide, Linda?

3rd student: Geez, here it comes now! We're really gonna get the party line.

5th student: Well, let 'er talk!

3rd student: She talks all the time and never says anything.

MC: Then there was this scene in the cafeteria......

1st boy: Hey, there's Rin Tin Grin!

2nd boy: Hi there, Tinsel Teeth!

3rd boy: Hey, shut your mouth, the reflection is blinding me!

Girl: (almost in tears) You guys better leave me alone or I'll report you!

Scene: Typical classroom again.

Scene fades out with argument increasing in intensity and MC trying to get things organized.

MC face-on again.

Scene: two or three boys and one girl in cafeteria line. Girl wears shiny braces on teeth.

Scene fades out to continued teasing like "just as long as you don't bite us," "take off that armor plate and fight like a man," "yeah, stop hiding behind U.S. Steel," etc. And agitated near tearful responses of girl.

MC: Well, those are just some of the things that went on where I work this morning. Like I say, I keep having these fantasies that if people really understood this thing about people and thought differently about communication, things wouldn't be that way. For example........ But let me show you what I mean.

⋀

Miss B: (at end of class) John, will you come to my office after class, please?

Miss B: You didn't seem to be with us in class today, John.

John: Yeah, I guess not. I really don't dig math, you know.

K

Miss B: Yes, you've mentioned that before. Your good friend Keith seems to dig it.

John: Yeah, well, I can't know about that. If he likes it, it's his business.

Miss B: But I've heard you say that math is "dumb stuff" and why does anybody like this "dumb stuff" anyway, haven't I?

John: Yeah, I guess you have. But that's true.

Miss B: Keith doesn't seem to think it's true. So aren't you really saying something about yourself, and not about "math"?

John: What d'ya mean by that?

Miss B: Well, if your friend Keith likes math, and you don't like math, but you like him, doesn't that mean that you're not really saying anything about math, but about the way in which different people see things different ways, and that different people like different things?

John: Yeah, well, so....?

MC front-on again.

⋀

Scene: First classroom scene again. John not paying attention.

Scene: Miss B's office. Looking at John across desk.

PS-19

Miss B: So, if you want to fritter your time away daydreaming in math class, you're doing it because you want to. You can't blame it on that "dumb stuff," because your friend Keith and I aren't buying that as a

John: Yeah, well, what difference does that make?

Miss B: It doesn't make any difference to me. What difference does it make to you?

John: What d'ya mean by that?

Scene fades out as discussion continues.

Back to MC face-on.

MC: Then there was that scene in my own current events classroom, you remember?

Typical classroom again.

1st student: Well, I don't think he's a good president!

2nd student: How can you say that. How do you arrive at that conclusion?

1st student: Well, because he's made all sorts of bad decisions.

3rd student: Give me some examples of what you mean.

Scene fades out and in again with discussion still going on.

4th student: Well, according to Walter Cronkite....

5th student: Wait just a minute! There's a great deal of difference between what happened and what Walter Cronkite or any reporter says about it.

4th student: Yes, I agree. But there is no guarantee that what you say about it is any more true, is there?

5th student: Well, no, but it depends upon what we're trying to accomplish. If we want to talk about what is going on, we'd better get back to some of the specific facts.

C: For example?

5th student: Well, for example, we would
need to know who did what and when. Not
only that, : it seems to me that we
would have to establish our criteria in
advance. What would constitute a "good"
or a "bad" decision. Can we sit here
and decide that for all time? Maybe a
lot of other things will have to happen
in history before we can say a decision
was "good" or "bad." It's always been
that way in history, hasn't it?

Then there was that third scene in the
cafeteria. I tell you, it seems to me
sometimes like we're never going to learn
this thing about people, like we're
never going to understand this communi-
cation business between people. If we
did, then it might have turned out some-
thing like it did in my fantasy, some-
thing like this....

1st boy: Hey, there's Rin Tin Grin!

2nd boy: Yeah, hi there, Tinsel Teeth!

3rd boy: Hey, shut your mouth, the
reflection is blinding me!

Girl: Yeah, well don't come too close,
the dentist said hot air will tarnish
them!

All laugh

MC: See what I mean? There just seems
to be that thing about people that we
can't get straight

and because we don't, we seem to get into
all kinds of communication problems.

And you know, I think there's something
more to this than my fantasies about it.
I think things could really be a lot
different if we thought about communica-
tion a little differently than we do.
Don't you?

Scene fades out with continuing
discussion.

MC face-on.

Cafeteria scene again.

Scene fades out.

MC face-on again.

Scene of MC kicking tree again, but in
modern clothes.

MC again.

Scene fades to black--or to credits at end.
X-feet of black here to shut down camera
for group discussion.

After discussion, MC again.

You know, I said a lot about this thing
about people, and about how we don't
understand communication very well, and
about the kinds of problems we create
for ourselves because of this thing.
But I guess I didn't really explain very
well what I meant. Let me see if I can
do that now.

Pulls down a movie screen, make it flicker
like old-time projector.

In all that follows, MC is standing beside
the screen or walking in front of it, etc.,
talking over the same scenes that played
previously, excepting his continuities.
(All scenes that follow are on this pulled
down screen.) Voice: All MC.

Well, you remember how it all began.
(Pause)
Like our ancestor here. He got it into
his head that it was the tree that was
cooling him off.
That's where this thing about people
begins. We have to figure things out.
We've got to understand, to know. Like,
this fellow knew that it was the tree
that was cooling him off.
Once he knew that, it got in the way of
understanding what was really going on.
And, just like we do even today, if the
world doesn't fit our understandings of
it, we start to take it out on the world.
He thought the tree wasn't doing what it
was supposed to be doing. So he tried
to kick the tree down. It didn't occur
to him that it was his faulty understand-
ing--not the tree--that was giving him
trouble.

(Scene A)

It's the same with people. You remember
how things went at my house this morning:
Things weren't the way she wanted them
to be for my wife this morning. So for
her it was just another "lousy day."
Then there was this little husband-wife
game we played. People get themselves
into all kinds of trouble because they
usually pretend they are talking about
things "out there"--like whether it's a
lousy day or not.

(Scene B)

PS-22

That "is" often trips us up. We can say
that "Things are thus-and-so." But we
can only mean "That is the way things
look to me right now." It's easy to
forget that--this thing about people.

But, if we all understood it, and didn't
forget it, like I said, things might be
different. It could have been like this:

(Scene E)

In this case, I didn't pretend she was
talking about the day when she said
"another lousy day." I assumed she was
talking about the way she felt.
If someone else is depressed, that
doesn't stop the sun from shining--for
me.
It has always seemed to me kind of
crazy to get into a big argument over
whether the sun is shining or not, when
all you have to do is look out and see.
But this thing about people: people do
it, don't they?

Kids learn to hassle each other pretty
early through this "is" business.

For example, when my son said to his   (Scene C. May need to be replayed,
sister, "You are too a so-and-so," she   or use stop-time to delay)
fell right into it. She had already
learned from watching other people that
she was supposed to believe that he was
talking about her. He wasn't. He was
talking about only one tiny part of the
way he saw her at that moment. Or, maybe
he just wanted to play an ornery game
and she didn't know it was just a word
game.

If she had, it might have turned out
this way:
If all girls are dumb and stupid, how   (Scene F)
come he likes Cindy, my daughter reasons.
Not bad. She calls his hand, and they
go off talking about what they really
wanted to talk about. Amazing, isn't
it?

There's this thing about people: there's
no way of saying everything about any-
thing, so we have to do a lot of filling
in.
Like, when someone asks a question:

Does she really want to know whether   (Scene D)
I want eggs or oatmeal for breakfast?--

Or is she just trying to fuss with me
because she can't get along with herself
this morning?

My eldest daughter's 15--and the way
teenage kids get hung-up about the most
trivial things! Boy, can they set off
an explosion if the fuse is already lit.

So my wife, still upset with herself,
says "Stop being the way you are." Like
stop walking the way you do or talking
the way you do, or looking the way you
do. That's impossible. But how often
do we get into it?

Maybe you have to accept people for what   (Scene G)
they are--for the way they are right at
that moment.

The way things are--the way people are--
is <u>given</u>, just like the tree. It doesn't
do much good to try to change the way
things are.* Maybe it makes more sense   *(Flashback to end of Scene A--kicking
to try to change the way we understand   tree). Back to Scene G.
them--the way we see them.

It's the same everywhere, at home, at
work, at school, at play. Our troubles
with other people often stem from trying
to change them instead of taking them
for given and trying to better our own
understanding of what's going on.

Remember Miss Beaufort's math class?   (Scene H)
She had it all figured out, didn't she?
That John was a trouble-maker, and that
the way to deal with trouble-makers is
to come down hard on them.

Well, she was overlooking one thing:
that the world is not necessarily the
way she sees it. She was assuming that
the circumstances are given and that
people are changeable, when it's just
the other way around, isn't it?

For example, when she talks to him   (Scene K)
privately, in my re-run of how it might
have been, she herself says that differ-
ent people see things in different ways,
and that different people like different
things. See what I mean?   PS-24

Like, we know these things about people,
but when one of us begins to pretend
that he isn't one of us--that his own
perceptions and likings and understand-
ings are not subject to error--then
trouble begins.
What she said to John was that he could
fritter away his time in class if he
wanted to, but he couldn't blame it on
the belief that math was "dumb stuff."
Because that isn't in the nature of
math, but in the nature of people.

Usually, I behave just like a people.
I remember my own current events class
this morning. It's easy to get into an
argument over whether someone is "good"   (Scene I)
or "bad," or "right" or "wrong."
I was letting the kids make two unneces-
sary mistakes. First, we should all
have begun with the understanding that
good and bad, right and wrong, are not
qualities of the person observed, but
are evaluations made by those doing the
observing. Second, none of us should
make it so easy for himself or for
other people to forget that there are
two levels of "reality" or whatever you   (Scene L)
want to call it.
There is "what-is-going-on": this
happened, or it did not. That happened,
or it did not, and so on. But there is
also "what-it-means-to-humans": Was
this thing that did or didn't happen
good or bad? What does it mean? And
meaning, we often forget, is something
that exists only in people. It never
exists in events or in facts.

Well, that's this thing about people.
We often forget that when we start
talking to each other.

Like the scene in the cafeteria. The   (Scene J)
boys were putting her on--just for fun.
She took it seriously. She thought
they were talking about her--she believed
that what they were saying was what she
was.
But she didn't have to. She could have   (Scene M)
realized that there is no necessary
relationship between what people say
and the way things are.
She could have realized that words are
often no more than playthings, and
joined right in the game.   PS-25

Well, as I said, I think there's some-
thing more to this than my fantasies
about it. I think there's this thing
about people.

(Viewing screen fades to dark--flickers out)

If we don't see it, if we aren't on
guard against it, if we just don't under-
stand it--then we get ourselves into all
kinds of difficulties. Some people call
them "communication problems."

I don't.

I think there's this thing about people.
We have to interpret what's going on.
Once we do, our interpretations get in
the way of understanding what's going on.
Like our friend here.

(Replay Scene A on screen to point of
frustration over being hotter when shade
moves while asleep) MC beside screen as
before.

It wouldn't have to be that way. If he
had understood this thing about people,
it would probably have turned out this
way.
Funny thing is: if the world doesn't
fit our conceptions of it, we think
there's something wrong with the world.
Maybe if we took the world as given and
ourselves as changeable, we'd do some
things differently today than we did
yesterday.

Highly speeded up movements as MC builds
a Rube Goldberg hammock linked to sun's
movements. As sun clicks movement across
sky, rig moves him in jerky movements along
with shade. Zoom in on his satisfied smile.

Film runs down and MC stands in front of
screen with projection machine still going,
but bulb only.

Maybe we wouldn't always be so sure that
what we know was what we need to know.

I dunno. What do you think? You're
people just like me.

(Replay Scene A to frustration scene and
Scene N both speeded up, with theme music
in background--"Broadway"--under credits
if played here, or under

"The Beginning" pulled off by   or by
                           hand replace   _nd"
                           pulled off and repl ed by
                           "The Beginning" unt__ fade
                           out.

Theme music

Main screen, MC beside vaudeville sign, which says

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More?
Write CASC
Room 300, Communications Center
The University of Iowa
Iowa City, Iowa  52240
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for 1 minute.   PS-26

FINAL REPORT: PILOT STUDY #3

Enrichment of Strategic Communication

Competencies: An Instructional Package

Project Coordinator: Tom Deats

Summary

The aim of this pilot study was to develop a prototype of
an instructional package for classroom use which would improve not
only student but teacher communication competencies in the area of
information seeking and knowledge utilization. The instructional
package developed for this study focused on fundamental theories
and concepts of human communication processes and inquiring behavior.
An important segment of the package included a simulation exercise
wherein students played the roles of "teachers," "students," and
"knowledge brokers." A student workbook, a teachers' manual, an
audio tape, and visual demonstrations were developed and tested
(see attached).

The instructional package, entitled Inquiry, was tested in
the classroom for two weeks in an Iowa community school. Three
seventh-grade language arts teachers tested the package in three
different classes. Although the package can by and large be
rated a "success" in terms of the ways in which it enh ...
enabled teachers to inform students about various human communi-

cation processes and forms of knowledge and informatic ilization,

the simulation portion of the package remained untes. he

teachers said they did not understand it. One major of

the simulation was to enhance teachers' information the

existence and use of U.S. Office of Education-sponso

systems. Further testing of this package with the si n

exercise should prove useful in developing student ar er

communication competencies.

Rationale and Description of Study

The study was planned primarily to develop app to
enriching teacher communication competencies at the stra ic
level with a goal of enabling teachers in becoming impro
inquiring systems. The rationale for this study was pon the
assumption that for the most part the so-called comm on pro-
blems in education related to information and knowled li-
zation are strategic rather than tactical in nature. Cf. Research
Memorandum #5.) Past efforts to improve teacher communication
competencies have for the most part focused only upon the tacti-
cal-skill-level and have failed to "get at" the strategic level.[1]
But a tactical communication competency is almost never adequate
to negate a strategic incompetency, although strategic competen-
cies may be developed which will enable persons to overcome exist-
ing tactical incompetency.

PS-28

The devel ment of this particular instructional package grew out of a dissatisfacti with existing "communication" instructional package hich for the most part do n   with strategic competencies ut cus on improvement of   skills (e.g., writing, spea ing sequence of presenta   terials, etc.) In addition, it was thought that a user   in ructional package was possible which would simultaneous   "instruct" teachers and students. For ex mple, in this package while the students are learning about various aspects of the human communication process, teachers, in order to "teach" the package must not only learn about communication processes but existing sources of educational information. (Of the three teachers who tested this package only one had previously heard of the ERIC system, but by the end of the test period all three were "aware"   ERIC system, even though they did not actually "teach" the simulation portion of the package where all of the material c ERIC was presented. Thus just by acquainting themselves with the material in the Inquiry instructional package the teachers at least became aware of the existence of the ERIC system.)

If the classroom teacher is conceived as a primary influence in the development and growth of the cognitive abilities (and disabilities) of children in school, then the kinds of information seeking habits and competencies which are used and espoused by teachers will more than likely be reflected in the habits and competencies of the children they teach. The material in this

package was developed and presented to teachers in terms of an "open systems" orientation. That is, most of the material was developed so that it could be presented by the teacher to facilitate classroom discussion and to permit the individual teacher to decide what, how, and when various material should be covered or excluded. (See Section One of the attached Teaching Manual.)

The material for the instructional package was developed for the junior high school level and was tested in an Iowa community school (Farley, Iowa) by three language arts teachers who daily taught three sections of language arts. Each teacher used the instructional package in one of their three sections. Approximately 75 students utilized the material in the instructional package. The packages were used for two weeks near the end of the spring semester. Each teacher developed her own lesson plans to fit her particular interests, capabilities, and her students. There were suggestions for class activities in the teaching manual.

Prior to the introduction of the new material into the classroom, the teachers were briefed on the general conceptual theories and assumptions behind the work and use of the package was discussed in some detail. During this orientation session the teachers were enthusiastic about the package and the uses to which it could be put in their classes.

An extended "rap" session following the two weeks of testing was held with the teachers to "debrief" them and to obtain their opinions and reactions to the instructional package and to obtain suggestions for possible improvements.

Generally the teachers thought the instructional package was useful and could, if utilized over a longer period of time provide important and needed information regarding human communication. There was a consensus that much of the material might be more suited to freshman level in high school.

The open-ended nature of the package confused the teachers to some degree in that they admitted they were not used to having to develop their own standards of learning achievement. As one of the participating teachers put it, "I had trouble trying to figure out what they were learning . . . . I didn't know what I was aiming for." Another teacher said, "I have the impression that what you were probably trying to do in here was to encourage creative thinking and original thinking. And I think that's good. But at the same time I think the teacher has to aim for something —you know—even if it is just to have them [students] present their thoughts on something—without dictating—keeping it sort of free, but at the same time knowing what you are aiming for in that lesson or that 45 minute period."

The teachers admitted that perhaps they depend too much upon lesson plans and curriculum guides developed by others and suggested that they would be interested in aiding in the development of instructional packages. As one teacher said, "I think maybe we're too used to [using prepared lesson plans] . . . which isn't necessarily, maybe, the best thing either. But I think that if [the instructional package] had more suggestions in it, it would have helped."

Another agreed, adding, "Yes. Activities. I found, where they [the students] rather than just talking about something, where they actually saw or did something, this is where you seem to get people really involved and maybe getting some insight from it. The more they participate the better." The interesting point here is that the teachers apparently failed to see themselves as participants in the learning situation and in the development of the material which was presented in the classroom. Several times they expressed pleasure with the instructional package and said the material on information seeking, questioning, creative thinking, etc., was valuable for the students, but never did the participating teachers explicitly say they thought such activities were good or necessary for teachers.

In reference to the use of basal textbooks in the teaching of reading, one teacher noted, "Not that an excellent teacher doesn't use it [basal reader text], but I think you really have to be a super, super, good teacher to be able to take that basal and put it away and know exactly what skills are taught in each grade in reading, for instance, and then go your own way . . . . I think good teachers use it, I'm not saying they don't, you know, but I think you have to add to it. I don't think that is just enough." The teachers do engage in "creative" work in developing their curriculums, but by and large do not recognize that they are doing so.

For example, in discussing the simulation exercise wherein students were to play the roles of teachers seeking information the teachers had difficulty in recognizing that the process the students (as "teachers") would be engaged in would be similar the ...es by which teachers attempt to determine what they think ...dents "need" to know. The following exchange took place in the debriefing session:

Teacher: "How are the teachers going to determine the needs?"

Investigator: "How do you do that?"

Teacher: "That's my question. You know . . . . I looked at this and thought . . . ."

Investigator: "You mean you as the teacher or the kids who are playing the role of the teacher?"

Teacher: "The kids who are playing the role of the teacher."

Investigator: "Okay. How do you do it as a teacher?"

Teacher: "I test."

Investigator: "To find out what you think the students need to know?"

Teacher: "Yes. Work with them for awhile like you do at the beginning of the school year."

Investigator: "Probably what you would have to do then is . . . they would probably ask you that question."

Teacher: "Yes."

Investigator: "That's probably the only way you could answer it—the way you do it."

Teacher: "Yes."

All of the teachers agreed that as they used the package,
the students, who at first did not easily participate in question-
asking sessions and discussion periods, began to increase the number
of questions they asked and in several cases began to help and
work with each other as teams as they shared their points of
view with each other. The teachers were struck by the unexpected
difficulty they had in the first sessions of getting all students
to participate in discussions and question asking. Two of the
three teachers indicated they planned to use some of the "new"
inquiring approaches in their classes in the future. All of the
teachers implied, however, that they were concerned that when
students "just discussed" or "merely thought about" questions they
might not really be learning what the teachers (i.e., curriculum)
expected them to learn.

As one teacher put it, "The class I used it [the instruc-
tional package] in thought it was pretty good. But I had trouble
trying to figure out what they were learning. It was fun in class
but I couldn't really understand myself what I was trying to
teach them, so I don't know if they learned anything."

Another said that she thought that if similar approaches
had been used "all the way up from first grade, it would be
easier to fit it. But it seems like so many of the kids . . .
maybe we don't give them enough time to just discuss or just to
bring out these things. And some of them you know—they—
they didn't know what to say. It was so different from regular

classroom instruction. We do have groups but then all of a sudden
you were opening it up. Like, don't be afraid to talk. And
you were trying to get it out of them. And it was hard for them."

Conclusions

This approach appears to be a viable method for beginning
attempts at reaching strategic communication competencies in
teachers and students. The simulation exercise in this particular
package would have to be outlined to potential "users" in more
detail in terms of what the users could and would need to bring
to the exercise situations than was done during the field testing.

Despite some drawbacks in the material and in the field
testing, the package can be called at least a partial success in
that it introduced several "new" approaches into classroom routines
and the participating teachers and students said they favored such
approaches. Further testing of this package would be desirable
with an expansion of the material and the simulation exercise.

Notes and References

¹See, for example, those instructional packages developed by
the Northwest Regional Educational Laboratory: Improving Teacher
Competencies Program, Improving Motor-Perceptual Skills, Coordinated
Helps in Language Development (CHILD), etc.

FINAL REPORT: PILOT STUDY #4

Development of Educational "News"

Audio Tape Cassettes

Project Coordinator: Stephen Martin

Summary

This project was designed to test the abbreviated hypothesis
that: educators need and will use knowledge which has "news" value
to the degree that knowledge helps them maintain their individual
roles as knowledge disseminators and corroborators. Educators need
knowledge to talk about to others and need knowledge of what others
are talking about. Knowledge which has this utility will be
"consumed" and/or disseminated. While the hypothesis could not be
said to be positively confirmed, pilot tests with teachers, prin-
cipals, and administrators indicate that the "news" concept employed
in this project, as well as the means of packaging and the general
rationale, have potential. We found some evidence that educators
would like such a service, and that educators use what they like.

Rationale and Description of Study

This portion is divided logically into two major sections.
The first deals with the philosophy and assumptions which formed a
conceptual base in the development of audio and video "news" cassettes.

The second section is a review of the actual development of the prototype cassettes.

I. Assumptions

Any attempt to deal substantively with issues involving knowledge dissemination and knowledge utilization is rather precarious to say the least. Few other terms in popular use require so much unpacking or are so "hallucinated" with assumptions which simply do not fit the empirical world.

In the first place, a prevalent notion has it that knowledge disseminated is knowledge used. Or, to say it another way, many would have us believe that--if knowledge is made available--it will be used. The facts indicate that it may well be used, or misused, or disused, or abused, or ignored. The assumption simply does not hold that there is any necessary relationship between the distribution of knowledge and the ways in which it is used.* What is obvious, however, is the fact that knowledge which is used will be disseminated. The point is worth being repeated: knowledge "used" is knowledge disseminated.

In the second place, another prevalent notion has it that "knowledge needs" determine knowledge usage. The assumption is that individuals "need" knowledge. Therefore, knowledge which

_____

*Indeed, it seems that the most prevalent "use" of knowledge in our society is ignorance.

appears necessary will be used. At the individual level, there is validity in this idea. That we each possess (and satisfy) knowledge needs is obvious. That we are generally knowledgeable about the specifics of these needs is questionable. That we are consistently capable of determining the knowledge needs of others, particularly those outside our epistemic community, is absurd--not patently absurd, but absurd just the same. What does seem to hold is the proposition that: knowledge "used" is knowledge needed.

In the third place, it is commonly suggested that the utility of knowledge is somehow directly related to its "problem-solving potential," i.e., the test of a "good" bit of knowledge-- it is often implied--is found in the corresponding bit of problem which it eliminates. Clearly, this isn't so, at least not neces- sarily. The argument against this assumption can be resolved on commonsensical, empirical grounds. In this age of "exploding knowledge," one would be hard pressed to cite evidence of any diminution in problems.

Although we may choose to believe otherwise, knowledge rarely simplifies life processes by aiding in the solving of problems. Quite the contrary, the use of knowledge tends to complicate life and, hence, acts as a stimulant in the creation of problems. Most teachers learn very quickly that most problem- solving knowledge creates a sea of problems.

The Knowledge Process: Fallacies

Before briefly discussing the propositions stated above
(underlined), one "supra-proposition" and three "fallacies of
knowledge," which have (or should have) particular import to
"knowledge disseminators," are deducible from the foregoing
comments. To wit: knowledge needed is knowledge used is know-
ledge disseminated. The negative corollary is perhaps even more
illuminating: knowledge not needed is knowledge not used is
knowledge not disseminated. What does not hold and, therefore,
is still more illuminating is the mistaken notion that the process
starts with dissemination and ends with need.

Three fallacies frequently obtained when the knowledge
process is not viewed as reflected in the "principle" above:
(1) The fallacy of dissemination. The assumption is that--if
certain knowledge is "made available" (i.e., disseminated)--it
will be used and used in prescribed ways. (2) The fallacy of use.
The assumption, in two parts, is that--if certain knowledge appears
"usable" (i.e., on the surface, it seems to have problem-solving
potential)--it will be used and used in prescribed ways or, if
certain individuals can be induced to use (not need) knowledge
of a specific nature, they will continue and others will do
likewise. (3) The fallacy of need. The assumption here seems
to be that--if certain knowledge is deemed necessary (or needed)
by certain individuals (or institutions)--it will be deemed

necessary by other individuals (e.g., teachers) or, if it isn't,
it ought to be and, therefore, somehow mysteriously will be.

While there is scattered "evidence" which appears to run
counter to what is suggested here, it seems perfectly evident
that everyday living "proves" these fallacies time and time again.
People "need" the knowledge they "use" and "use" the knowledge
they "need." If they do not need certain knowledge, it will not
be "disseminate-able." If they do, it will be disseminated by
use, rather than by "dissemination" or by disseminators in any
formal sense.

The Knowledge Process: Propositions

To repeat, the proposition central to any cogent view of
the knowledge process might be stated epigramatically as follows:
knowledge needed is knowledge used is knowledge disseminated. This
very telling maxim is deducible from a simple, albeit sensitive,
examination of the three propositions discussed below--and, in
turn, these three propositions are deducible from a simple, albeit
sensitive, examination of the empirical [read: "real"] world in
which we all live.

1. Knowledge "used" is knowledge disseminated. The
problems of "getting knowledge used" is one peculiar to knowledge
disseminators. Most knowledge that is "used" by most people in
any epistemic community falls into an entirely different category.
Or, to put the matter more squarely and more accurately, the

PS-41

problems faced by knowledge disseminators result from attempting
to disseminate knowledge which is not presently being used by
those to whom it would be disseminated.

Obviously so, one might say--elsewise knowledge disseminators
would be unnecessary. That is, one might go on to say, if the
problem didn't exist in "getting knowledge used," questions of
knowledge dissemination (and utilization) would be obviated.
However, the point is that knowledge dissemination is a problem
only for knowledge disseminators, not for "real" people using
"real" knowledge. The facts indicate quite clearly that knowledge
which people consider useful is used by them and that knowledge
which is useful in getting large numbers of individuals "through
the day" is disseminated quite effectively without the aid of
knowledge disseminators, per se. Hence, there is no reason to
suspect that knowledge which is not being used by individuals
(e.g., teachers) will necessarily be used by these same individuals
if the knowledge is merely distributed to them.

2. Knowledge "used" is knowledge needed. This follows
very closely from the first proposition. At the individual level,
it is questionable whether a person needs any knowledge which he
(or she) is not presently using. On the other hand, if an individual
recognizes a "need" for certain knowledge, that need alone repre-
sents a "use" of the knowledge, regardless of whether the specific
knowledge is involved or not. In fact, it is often the case that
the "best" (i.e., most productive and stimulating) use of knowledge

PS-42

obtains when a knowledge need is recognized by an individual, but
is not fulfilled or satisfied or solved.

Once a specific knowledge need is rocognized within a person,
one of two "useful" events will take place. Either the individual
will seek out knowledge which will have utility (i.e., "be usable")
in satisfying the need or the individual will discover (or recognize)
utility in not obtaining the specific "needed" knowledge.

For example, talking about problems is apparently oftentimes
more useful to people than is solving probl·ms. The mistake,
then, is in assuming that since people talk about problems (i.e.,
problems in the classroom) they necessarily expect, desire, or
"need" knowledge which would "solve" their "problems." Or, to
put the matter more squarely and more accurately, the problems
faced by knowledge disseminators result from attempting to dissem-
inate knowledge which is not presently being used and is not
presently "needed" by those to whom it would be disseminated.

3. Use of knowledge tends to complicate life and, hence,
acts as a stimulant in the creation of problems. It may well be
true that knowledge disseminators need to concentrate more on
packaging problems, rather than solutions. This is not to suggest
that people "need" additional specific problems. Most of us don't--
or, at least, we tend not to think of our "needs" in these terms.
But, on the other hand, neither do we always, or even often, "need"
additional specific distributed solutions. What most of us do
need is knowledge which we are able to use in maintaining our
individual roles as knowledge disseminators.

We need knowledge to talk about to other and we need

knowledge of what others are talking about. This universal "need"

seems to afford the most vulnerable spot of attack by knowledge

disseminators. It isn't directly a matter of dissemination nor

use, nor need (as is generally conceived) and efforts in these

directions will merely create enough problems to keep knowledge

disseminators in business ad infinitum. It isn't directly a

matter of creating problems for others or offering them solutions.

It is a matter of recognizing and understanding the knowledge

process at the individual level and the role which human communica-

tions plays in that process.

II. Development

The major hypothesis of this study was that educators

need and will use knowledge which has "news" value to the degree

that they can organize themselves around that knowledge and,

secondarily, which helps them maintain their individual roles as

knowledge disseminators.

That is, educators "need" knowledge to talk about to others

and "need" some knowledge of what others are talking about.

Knowledge which helps satisfy this need will be "used" and dis-

seminated. What is meant here by the term use has to do with an

individual using information about something in his social

relationships--which is the earliest and still the most basic

function of human knowledge--and not so much the direct application

of "knowledge" to a problem situation, per se. The "use" of knowledge in the first sense precedes the second use. All knowledge which is taken-into-account must necessarily exert an ordering or disordering effect within the individual, which is typically to be accommodated through corroboration or disconfirmation by others in one's own epistemic communities.

Assuming that disorder encourages change and that change is "the name of the game" for those concerned with knowledge dissemination, then the project outlined here appears to have considerable potential. It should be emphasized, though, that the direction of change is difficult to predict and, hence, if the "real" objective is control, then intellectual-communicational disordering is not the prescription.

In essence, we hypothesized: 1) that educators would be attracted to educational knowledge if it could be presented effectively as "news," given all of the first-person and dramatic impact of radio, TV, and newspaper "news"; and 2) that, to the extent one or more educators in a given school were attracted to these news programs, the other teachers and administrators would have thereby a "need" to know what the one or two of their colleagues now "knew."

Based upon the preceding rationale, seven series of educational "news" audio tape cassette programs were developed to test these hypotheses. The series were intended as continuing categories with additional programs to be developed in each series on some

interval basis. For this project, eleven prototype programs were developed and experimented with. Each program is approximately 5-8 minutes in length. Each program is patterned on the educational "news" concept of packaging knowledge which educators might find helpful in talking to others and in knowing what others are talking about. In this way, knowledge is "disseminated" by much the same formula and with comparable results as is political, sports, and financial "news." The main utility of news--at any level and of any kind--has to do with the fact that news gives people something to talk about.

Audio "News" Series

    1. News On Books Educators Are Talking About

       Program 1) Illich-Silberman

    2. News On Special Topics Of Interest To Educators

       Program 1) Communication in the Classroom

            2) Public's Attitude Toward the Public Schools

               (Parts A & B)

            3) Alternative Educational Programs

    3. News Educators Are Talking About

       Program 1) Roundup of News

    4. News From Educational Research

       Program 1) PRED Report #25--Improving Teaching

            Effectiveness

5. What's New In Iowa Schools

    Program 1) University of Iowa Courses

    2) Sabin Elementary School

6. Conversations With Educational Thinkers

    Program 1) John Bremer

7. Educators In The News

    Program 1) John Holt

These "news" cassette programs, which are appended to this
report, were not produced without difficulty. We first examined
and analyzed all of the audio cassette programs we could locate--
those for business executives, physicians, psychiatrists, salesmen,
literary buffs, historians, and even teachers. Based upon their
market, we attempted to assess those elements which might contribute
most directly to their "success."

Beyond the convenience of the cassette itself, and the
advantage of its privacy, we considered such factors as time,
voice, first-person effects, absence of pedantry, repetition, and
so on. We considered the privacy of the audio cassette to be a
key factor since people learn and accommodate new information
"better" in private than in public. We also discovered that the
saturation of audio cassette players was such as to ensure the
technical efficacy of the medium if we could achieve the right
combination of other factors.

During the year, we experimented with many different
combinations of factors. We produced several prototypes before

achieving the combination which we finally experimented with--
exemplified in those programs listed above.

Because it was after the regular school year by the time
we had produced prototypes we felt might be effective, we "tested"
them on an invited group of teachers, principals, and administrators
from the Iowa City and nearby school systems, and with other
available audiences less formally. On the basis of these coopera-
tive "tests" of our prototypes, we feel we have learned what
conbination of factors--including subject--would most likely be
effective. This could best be developed in conjunction with a
hearing of each program.

As to distribution: it was our conclusion that four
distribution schemes might be feasible, and worth testing:

1) direct personal subscription;

2) free distribution through existing resource agencies
such as Iowa's Regional Centers;

3) through school libraries, much as magazines are
distributed, except the cassettes could easily be "recycled" and
thus reduce costs; and/or

4) some combination of these.
Further exploration should be made of these and other distribution
schemes, for distribution is and will remain--as with all subscription
services--a crucial factor.

We also concluded that a desirable next step would be that
of devising a national purview for the subject matter for this

medium, and an organization scheme for the collection, editing, and "packaging" of educational "news" suitable to this particular-- and highly demanding--medium. An audio news cassette is not a mere substitute or complement to the print media (although it could be adapted to the second function), and, to be effective, would need to be developed and facilitated in terms of its own potentials and limitations.

Video "News" Cassettes

As a result of experimentation in producing similar news programs on video tape, two tentative conclusions seem unavoidable:

1) Given future expansion in the availability of video playback units and given the inherent possibilities of a medium which combines visual and auditory "channels" and given the enormous quantity of experiences Americans have with commercial television, video educational "news" cassettes afford potentially even greater potential as a means of knowledge "dissemination."

2) Video programs should be conceived and developed separately from audio "news" programs. That is, one should not be patterned directly after the other--except in terms of the general rationale--and one medium should not be considered to obviate the use of the other.

Lastly, it should be understood that formalized, institu- tionalized knowledge disseminators represent the true knowledge users and that educators can more usefully be viewed as knowledge

disseminators. The question OE should be most concerned with, therefore, is how can knowledge be used by OE in such a way that educators will disseminate that knowledge.

As of this preliminary report, one viable and fairly effective video tape news cassette has been produced, based upon our experience with earlier prototypes and with the audio news cassettes. It is appended to this report.

FINAL REPORT: PILOT STUDY #5

New Approach to Development of a

Magazine for Educators

Project Coordinator: Lee Thayer

This Pilot Study, more fully described in our Interim

Report (December, 1971), herewith reproduced as Appendix A to

this report, was, as explained in an earlier Progress Report #3

(30 April 1972) not carried through.

It involved the development of some alternative patterns

for the content and presentation of educational research and

innovation "knowledge" either in existing magazines or in an

experimental prototype. Although it was not possible for us to

undertake any empirical tests of these possible alternatives,

our continued surveillance of the research literature on the

communication patterns of practicing educators has lent additional

support to our original hypotheses. As a result, we feel that

there would be new and/or otherwise unexploited opportunities

in such an endeavor, and suggest that NCEC may wish to undertake

some efforts in this direction in the future.

APPENDIX A

Pilot Study #5

New Approach to Development of a
Magazine for Educators*

As discussed in previous documents in this project, we do
not believe that the key problems in "knowledge" utilization in
education are tactical communication problems, calling for more
data, different forms of data, the direct translation of data
from a print to a nonprint medium, etc. Rather, we believe that
the key problems--the long-range problems--are strategic communica-
tion problems.

One very general hypothesis which develops from our
alternative conceptual perspective on the process is that educators'
competencies as inquiring systems will be enhanced not so much by
providing "solutions" to general "problems" (as decided by the
"knowledge" producers or the information-system designers), but
by increasing the alternative ways educators have of identifying
and naming the problems they want to deal with. At its core, this
is a very simple matter. Eskimos have some 17 different ways of
naming "snow." This gives them finer discriminations, and several

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*Source: Interim Report dated December, 1971, pp. 47-48.

PS-52

alternative ways of orienting themselves to what we call "snow."

These alternatives, in effect, make them better "inquiring systems"

as far as snowfall is concerned. The same relationship, we have

reason to believe, holds for any human perception of what is going

on: the more the perceiver's alternatives, the better he is as

an inquiring system, and the more sensitive and responsive, there-

fore, must be his "sources" of information.

Our preliminary study suggests that there are several major

differences of this sort between most academic education journals

and, for example, engineering and trade journals. (The latter

also often personalize information where academic journals in

education often tend to "disembody" or to depersonalize informa-

tion ["knowledge"].)

It seems to us that "problems" are one of the educator's

"stocks-in-trade," and that, therefore, there is a need for a

magazine (or at least a magazine department) which would add to

a teacher's problem-naming repertoire--and thus to his "stock-

in-trade." The development of a prototype magazine (or of proto-

type departments within an existing magazine) would permit us to

demonstrate two things:

1. That educators would "use" a magazine (or departments)

which would increase their repertoires of problem-naming, in much

the same way that interpersonal conversations serve this purpose; and

2. That their "use" of such a medium would both enhance

their competence as inquiring systems and permit the indirect

"transfer" of new research and practice ideas, new "knowledge," etc.

We plan to develop and test prototypes with these two

exploratory hypotheses in mind. It is not clear at this moment

how best to assess the results, but assessments seem feasible,

and assessment techniques will be developed according to the

schedule below.

The results will demonstrate the feasibility of further

research and development of a medium that would seek the two ends

described above.

FINAL REPORT: PILOT STUDY #6

Film Loops and Knowledge Utilization

Project Coordinator: Ed McLuskie

Summary of the Problem

The hypothesis for Pilot Study #6 was designed to speak to

the need for efficiency in the public schools as well as to "knowl-

edge utilization" in general; this need is implicit in notions of

standardization and order which in part characterize public schools.

A model of operative efficiency regarding knowledge utilization

would necessarily be found, it was contended in the proposal, in

a closed system. The training department of TWA offered such a

model. It was learned that, in this specific closed system, two

basic "information environments" existed--the formal and the informal.

The former consisted of explicit training sessions of various sorts

(classroom exercises and instruction and training exercises on an

individual basis); the latter capitalized on the trainees' "free

time" or "coffee break" environment, through quiz games (drawing on

material from instruction sessions) and through film loops contain-

ing "new" information (less related than the quizes to the formal

environment). The film loop technique was also employed in the

actual work day of the pilot by TWA in pilot waiting rooms. Having

proved successful for TWA's closed system, this study asked whether

the informal environment of the public schools could also prove

profitable for teachers. Asking this question demanded scrutiny of the nature of the closedness or openness of the school's environment.

As noted in the Interim Report, a closed system is characterized by efficiency. The ideally closed system is a system which does not allow any deviation from performance of tasks to a specified end. That end (or those ends) is clearly defined, as are the means. In the context of those predefined ends and means, the closed system is an authoritarian system in that deviation from those ends and means through, for example, toleration of "creativity," is not allowed. An efficient system is an ordered and orderly system.

The ideally open system, on the other hand, is characterized by inefficiency--freedom to the point of chaos. Here we find no order, where individuals are freely "creating" to no predefined common end or ends. Tasks are not clearly defined. Where the results of tasks performed in the closed system are identifiable, they are not in the open system, if we understand "system" to denote connections of some kind--duties, means, ends, the individuals involved. In a sense, then, the phrase "open system" is a contradiction in terms, for the ideally open system is no system at all.

It was contended in the proposal that, "while notions of creativity and freedom are not part of the airline enterprise (in terms of how to perform the required task), they are considered important in the education enterprise" (Interim Report, p. 50).

Such notions would cause a system to be less closed than it would be in their absence; this study was thus based in part on the assumption that "the education enterprise . . . is a relatively open one . . ." (Interim Report, p. 51).

The larger question thus became, "Could a closed system posture be transferred to an open system?" and was reflected in the hypothesis: The posture embodied in a relatively closed system can be successfully transplanted only to certain closed aspects (in this case those completeable and determinate tasks) of a relatively open system.

Rationale

The scope of this study was limited to the "new information" aspect of the informal environment, where at TWA the film loop concept was employed. Strictly borrowing from TWA, a Fairchild film loop machine was placed in the faculty lounge, counter-part of the TWA training center coffee lounge, at West High School, Iowa City, Iowa, for four days. West High School was chosen because every faculty member is allowed one free hour during the work day. Furthermore, the faculty lounge was chosen because it was the only place in the school building to which faculty members could go during that free time, since all classrooms were utilized each hour. No other school was chosen due to time limitations; i.e., the test was ready to put into operation only during the last full week of school.

Two films were used for the testing period. The first drew
its material from a piece of research in the ERIC System, "Do
Teachers Make a Difference?" by Alexander Mood. This piece was
chosen for its potential appeal to all teachers, rather than
other pieces of research which speak only to history teachers,
science teachers, etc. The film did not merely transpose the
information from the printed research piece to the film medium;
rather, the problems posed in the research piece were posed in the
film, reflected by three basic questions: (1) Do teachers make a
difference? (2) In what ways, psychologically and in terms of
skills? And (3) How can we know? The filmmaker was told only to
pose these questions and, at the film's end, to direct viewers to
postcards which would allow them to receive a full discussion of
these questions in the printed piece. The questions were posed
through the use of simulated classroom situations which involved
students of junior high and high school age along with adult actors
portraying teachers. Visually both task situations (taking
standardized tests, for example) and emotional-psychological
situations (a teacher showing his anger toward a student and the
student's response, for example) were displayed; a narrator
verbally raised the three questions in different ways throughout
the film. The sound track included music. The attempt here was to
make the film as entertaining as possible while still aiming for
teacher responses via the postcards. Since the environment
wherein the film was being shown was informal, a formal film was
not thought appropriate.

The second film had as its subject matter the various resource centers available to teachers for their use. Visually, different kinds of equipment were shown, with musical background. It ended with the narrator saying only that media resource centers have materials available to teachers. Again, the subject matter was chosen because it would not appeal only to one specific group of teachers. Furthermore, the film was not loaded with the information--postcard response would provide that. To have loaded this film with that information would have been to formalize the film. It is important to emphasize that the medium for this study was not the technic (neither the Fairchild projector nor the film loop), nor was it the faculty lounge. Rather, the medium was the state of mind. Referring again to the TWA model, "free time" of the trainee was capitalized on; free time of the teacher was capitalized on here. The assumption is that the teacher brings with him to the faculty lounge a state of mind notably different from the classroom, faculty meetings, and in-service training programs. The key distinction of the state of mind in the faculty lounge is its quality of informality.

Of consideration in this pilot study was essentially whether or not the technic would be used during this state of mind, i.e., in this medium. Therefore, only to this extent was the hypothesis addressed. If the technic were not used, the question of capitalizing on this state of mind in a public school would have become moot. So far as this pilot project was concerned, the task was to determine whether the question was indeed moot.

PS-59

Procedure

The film loop machine was placed in the faculty lounge, and
could be turned on by pressing the "on" switch; when each film
ended, the machine automatically shut off. As stated in the
proposal, "The point of this study is not to change the education
system, but to reflect certain aspects of it" (Interim Report, p. 52).
Therefore, no effort to encourage teachers to use the machine was
extended; the machine was left to the curiosity of the teachers
themselves.

Three measures of use were employed: (1) An electric count-
ing device, wired to the on-off switch of the Fairchild projector,
indicated how many times, if any, the machine was turned on. (2)
Film content in a "soft sell" manner referred viewers to postcards
provided at hand, which the teacher could fill out and send to us
requesting further information about film content; the number of
cards received constituted a second measure, but only one suggesting
extent of use by the teacher--i.e., was he sufficiently interested
in more information? (3) Informal conversations throughout the
testing period took place. This "measure" is viewed as the most
important, for it addressed the communication problem: Would the
technic during this state of mind become a part of the faculty
lounge culture--a part of the state-of-mind medium itself?

Deleted from the proposal were testing and the strict building-
block approach (Interim Report, pp. 52, 53). These aspects of the
TWA posture were seen as irrelevant at this stage. Again, we were

interested in use as a precondition to tests of retention, compre-
hension, and application; testing and particularly the building-
block approach are designs with use assumed. We could not afford
to make that assumption for this study (Research Memorandum #5, and
Interim Report, p. 7).

The closed aspect of this study was that complet-able and
determinate task of merely filling out and sending in the postcard
provided, the only thing teachers were asked to do at the end of the
film. This constituted in a minor way the closed posture transplant
from TWA.

Measurement Results

Measure #1, digital counter: The reading at the end of the
first teaching day was "18," "15" for the second day, for a total
of thirty-three times the machine had been turned on. The third
day of the test and the first day of the second film showed a marked
decrease, the reading at the end of this day being "3." For the
last day the reading was "1," totaling four times the machine was
turned on for the second film.

Measure #2, postcards: Well over a month, from the time the
technic was placed in the faculty lounge (May 23, 1972) to the date
of this writing (July 7, 1972), has been allowed to await any cards
teachers might have sent in. No cards have been received to date.

Measure #3, informal conversations: The Fairchild projector
and each film were observed to be talked about by teachers without

questions being asked of them. Generally, the technic was more a

topic of discussion the first two days than the last two. The

coordinator was asked several times why the machine and films were

there. Discussion was more often about peripheral matters than the

substantive film content; characteristic examples are the statement

put to the coordinator, "That thing has great reception!" and the

question by another teacher, "What channel is that on?" Conversa-

tions were of an indirect nature, on the order of observation. At

the end of the last day, when the machine was removed, no teachers

were in the lounge, but perhaps a statement by one was: the Fair-

child projection screen had been turned to the wall.

Interpretation of Results

The readings on the digital counter indicate only that the

machine was turned on. The number "33," for example, does not

tell us whether thirty-three different teachers turned it on once

or whether one teacher turned it on thirty-three times. That

there was a steady decrease from day to day may indicate decreasing

interest, but even that is not certain. What is certain is that

the machine was used.

The lack of postcard response may or may not indicate that

teachers were not interested in acquiring more information regarding

the film content. This, the only portion of the study of a closed

posture, would seem to disprove the hypothesis, suggesting that

whether or not the teacher is an "inquiring system," tactical

maneuvers like putting what's in print on film or any other technic

is not going to make him so or more so; this result also points

beyond the scope of this study to the total relatively open system--

i.e., the teacher brings a state of mind different from the class-

room, but he is not divorced from that classroom. If the hope

was that teachers would ask via the card for information available,

that hope was not only unfulfilled, but it also rests on the

assumption that merely knowing how and where to get what kind of

information necessarily means the information shall be sought; such

is the usual "knowledge transfer" approach. That approach would

seem to be denied by virtue of this measure. It can only be said

that this particular closed system posture was not effective in a

relatively open system.

The characteristic comments exemplified above show that the

state of mind integrated the technic, that the technic was indeed

used. The films and machine were taken into account in an active

way by teachers. How they were taken into account is not important

at this point. That they became "cultural" indicates that the

informal environment and the state of mind therein are worthy of

further exploration. While there is nothing in the results which

indicates technics per se are answers (which, because such problems

are not communication problems, are not our major concern), the

results of the readings and from the informal conversations are

evidence of technic use to some end by the teachers (which only they

knew).

Conclusion

Because the film loops and machine became "cultural," "knowledge" of some sort was utilized. The more certain "sorts" of "knowledge" are specified to be utilized in a pre-determined manner, the less open a system becomes. This study was designed to reflect certain aspects of the education enterprise, not change it. If closed system postures are to successfully be employed in any way, the results suggest, external changes to the open system are required-- making the educational system itself more closed would seem to follow, a prospect of immense undertaking.

However, there are differences of open and closed activity within any given system. The informal environment may be used in conjunction with a more closed formal environment, the teacher bringing with him to the faculty lounge certain aspects of the formal. If the informal environment were related to the formal in some way, the kinds of tactical problems accompanying "knowledge utilization" (like getting more teachers to use more of ERIC) may to some extent be solvable.

The films in this study were of an "indirect" selling approach. It may be that the assumption that films should correspond to the environment in which they are shown is in error. An extension of this study would be to see how a formal presentation--a virtually information-loaded film--fares in this state-of-mind medium. Another further extension would be, instead of the "soft sell" approach used here, the use of a "hard sell" film. The groundwork

from this pilot study has been laid; we know the films became "cultural" to some extent, which answers the communication problem for this study; the next step is to investigate to _what_ extent this phenomenon occurs.

The film-loop may be contrasted with other technics, like television tape--a tactical problem which can now be investigated in view of what we now know of the communication problem.

FINAL REPORT: PILOT STUDY #7

Simulation and Knowledge Utilization in Education

Project Coordinators: Albert D. Talbott and Malcolm S. MacLean, Jr.

Research Team Members:[1] Michael L. Turney, Sharon F. Murphy,
Michael P. Kennedy, and Francis R. Lalor

Summary

In this section, we give the rationale for and describe a
learning game which may become a prototype for games and simulations
for more efficient knowledge utilization.

Few social scientists suspect yet what a powerful tool for
exploratory research open system simulation may become. More edu-
cators are beginning to recognize what a powerful instructional tool
it can be. It seems especially so when used in learning to cope
with complex situations.

We were fortunate to have in our project team of six persons
six teachers, four school administrators, six scholars, three pho-
tographers, several specialists in broadcasting and film, four
fathers and one mother. We were helped too by insights gained from
the superintendent and assistant superintendent of the Iowa City
school system. Discussions with school teachers and principals in
the summer of 1971 also contributed to our thinking for this project.

A learning game, as we see it, differs from other simulations
in that it is shorter and simpler. Our object was to derive a game

from a theory broad enough to generate larger and more complex simulations with similar aims. Our long-term purposes are to achieve those kinds of interactions among researchers, funders, teachers, school administrators, instructional package enterprisers, etc., which can improve both formal and informal educational systems. The game we produced appears to be a useful step in that direction.

We designed the game by:

1. Considering the kinds of things we wanted to happen and especially not to happen.

2. Developing guidelines and rules on the basis of those considerations and our experience with other games.

3. Trial and

4. Error

We made it a relatively open game to permit participants room to achieve some of their own aims through use of strategies and tactics we could not anticipate.

In February, 1972, we ran a pilot of the game with our students and colleagues. This led to some fruitful criticism and revision.

We also ran the game twice in April. We played THE GAME (as we came to call it) with high school journalism teachers at their convention in Los Angeles. The following week, we played it in Atlanta with members of the International Communication Association. The latter run of THE GAME we could not complete for lack of enough participants, but it proved to be the richest

experience of all.

THE GAME itself called for three major roles:

a. Enterprisers: that is, members of learning enterprises
   similar to Westinghouse Learning Corporation, who create
   learning packages and sell them to

b. Teachers: school faculty members who buy instructional
   packages and teach

c. Students: who attend schools and take a certification
   exam.

We intended THE GAME to be more metaphor than simile. That
is, it was not supposed to represent closely any current arrange-
ment of formal education.

Participants play THE GAME as follows:

1. Enterprisers study a book on computers and programming,
   especially a chapter detailing a "Paper" Computer.

2. They prepare an instructional package of a kind they be-
   lieve will help teachers most in efficiently teaching
   students how the Paper Computer works and how to program
   for it.

3. They work out how best to sell their packages to schools
   in competition with other enterprisers.

4. They try to sell their packages to as many schools as
   possible.

5. Teachers decide which instructional package to buy for
   their school. They may decide on the basis of which
   package will help them most in teaching, which might

make the job easiest, which might attract the best stu-

dents, etc.

6. Teachers may ask enterprisers to help them learn how to

use their packages.

7. Teachers recruit students to attend their schools.

8. Students decide which school to attend. They select

sometimes on the basis of which might help them most to

score high in the exam, which looks interesting, which

has the prettiest teachers and like reasons.

9. All participants take the certification exam.

10. All participants and directors of THE GAME discuss pro-

cesses, strategies, tactics, decisions and outcomes.

11. Each participant learns his score and collects his award,

if he has won one.

In our trial-runs of THE GAME, we looked especially for know-
ledge utilization or the lack of it. We took pictures and recorded
sessions in audiotape and videotape.

Analysis of our observations suggests high potential for sim-
ulations in gaining the kind of interactions Havelock has called
for.[2]

Given our experience with this and other simulations, we see
the following applications:

a. A series of games in which people who play vital roles

in educational knowledge production and utilization

work through various ways of relating to each other.

These could help increase intercommunicational abilities

among such people. Such games might also help them and us to create long-term simulations to be introduced into formal training of teachers, administrators, researchers, etc.

b. A series of linking games to be used in training field agents. The games would provide linkers opportunities to try alternative strategies and techniques in linking educational researchers and specialists with practitioners.

c. A series of games conducted by field agents with school personnel, parents, pupils, etc., where participants try new alternatives, discover some of the benefits, bump into the problems, work through adaptations, select what works well, modify or eliminate what doesn't, etc. Since adoption of innovations in schools is often more complicated than that on farms, this application might have the greatest pay-off of all.

d. A series of games in which N.I.E. personnel, media specialists, communication and learning theorists, parents, adolescents, etc. could work through alternative systems of less formal education. This follows from one of the major recommendations of the Iowa project.

We recommend all four of these applications.

In any case, we will continue to work with simulation as a research and instructional tool. .We would be pleased to work on any of the above applications, should N.I.E. wish to sponsor us in doing so.

PS-70

Rationale and Description of Study

We are interested in developing training simulations for knowledge producers and consumers in which they can experiment with, and experience with each other, the problems and difficulties inherent in overlaying data systems on communication systems. A simulation is a transactional experiential learning environment in which the learner is brought into dynamic contact with the phenomena he is to learn about so that he can develop understandings which are uniquely his own.

Most everyone is well aware that conventional (and undoubtedly some of the new) teacher education programs do not imbue teachers with either the attitude or aptitude for the conduct of inquiry. Teachers, generally speaking, are not "effective" inquiring systems. We believe simulation, of all educational technics, offers the greatest potential for developing the characteristics necessary for the conduct of inquiry.

At Wichita State University, Thayer developed a large scale simulation as part of the basic program in the College of Business Administration.[3] At the University of Iowa School of Journalism, we have begun our fourth year in our use of a large scale simulation as a major teaching-learning vehicle in our undergraduate program.[4] Participation in our simulation accounts for one-half the 24 credit hours we require for our basic journalism major. A major emphasis in Thayer's simulation and in ours is providing learning environments in which students can become better inquiring

systems. We are very much encouraged by our use, as Thayer was by his, of simulation to achieve such ends. As far as we know, these are the only two simulations of their kind.

Originally we were interested in both small- and large-scale simulations which could be used as significant parts of the basic program of a college or department of education. Such simulations, from our point of view, would enhance and encourage in students who are prospective teachers, those desirable attitudes and aptitudes necessary for the conduct of inquiry. Teachers here are primarily conceived of as "knowledge users." An ideal situation would be to design simulations which involve participants as both producers and users of "knowledge." A program such as this could involve graduate and undergraduate students and faculty.

Presently, the typical social environment of public education separates knowledge producers (researchers, consultants) from knowledge users (teachers). Each operates in different social or institutional complexes, and the structures of those complexes are quite different in a number of important respects, such as epistemologies, philosophies, reward structures, financial support, professional identification, etc. A knowledge producer (educational researcher) is not typically rewarded by the "users" who utilize the knowledge he produces, and conversely, a knowledge user (teacher) is not typically rewarded for utilizing the knowledge which is produced by researchers.

However, some very interesting learning experiences for both knowledge producers and users might arise in situations where the reward structures were interdependent. This would involve construc-

ting simulations in which the created social context would interdependently support and reward both producers and consumers of knowledge. Such an environment should permit the two groups to develop more complementary and functionally useful concepts of themselves with respect to their mutual relationship and their work.

As we worked with this project we broadened our conception of potential applications for gaming and simulation in knowledge utilization. For example, we now believe we can fruitfully conduct simulations involving decision makers in funding agencies, research groups, resource centers and schools. Simulations may also prove highly useful in training field agents in the diffusion of innovations.[5] Further, they might make it possible for teachers and others in school systems to try out alternative innovations to develop more realistic bases on which to decide which to adopt and what kind of adaptations may be necessary to make things work well.

We know that often the information systems people build don't match the communication systems of potential information users. Information system builders usually need to learn about the communication systems their consumers use, just as the consumers need to know about the information systems available for their use.

If an information producer were aware of whether and how consumers were handling his product, would it affect the way he produced it -- indeed what he produced? And if this "handling" could be scrutinized in a simulated environment, might it suggest new relationships and desirable alternatives to "the way things really are'?

A basic NCEC concern is how to get decision-makers-in-education

(professional and certificated personnel) to see the need to make use of information systems built by governmental and educational agencies. It seems to us that, once a study is accepted into systems like ERIC, it is retained there indefinitely on the assumption that it might be useful to somebody sometime. The kind of interaction developed in simulation can help to insure that the information going into data banks like ERIC will be useful to practitioners. In a simulation, researchers can sharpen their skills in assessing information needs of teachers, principals, etc. On the other side of the coin, practitioners can become skillful in getting researchers to understand their needs.

Some corollary concerns, we feel, must be

a) to develop communicating, inquiring systems in the information producers which can help them deal with consumer's communication systems and vice versa; and

b) to explore institutional reward systems--e.g., which people are rewarded how much for doing what?

This latter concern seems most pressing, since present institutional systems tend to reward the information producer on the basis of the quantity of his published research, but not on the basis of whether he has related to and made a difference for the practitioner-consumer (i.e. principal, school board, superintendent, etc.).

The nature and form of research produced and the channels through which it is distributed ideally will facilitate the dissemination of appropriate materials and information to appropriate users. In order to do that, producers need to learn more about the communi-

cation systems of users. Consumers need to know what is and might become available if they approach producers in appropriate ways. And both need opportunities to experiment with "appropriate" approaches.

Pilot study #7, outlined here, has as its major focus the design of means for dealing with the producer-consumer relationships just discussed. The means: small and large-scale simulations which can be used to develop in educators at all levels strategies and techniques necessary for the conduct of inquiry. Such simulations might enhance and encourage desirable attitudes and aptitudes for the conduct of inquiry in both users and producers of information.

As we first conceived this study, we wanted to develop a manipulable model of knowledge utilization. We developed THE GAME, which will be described later, both as a demonstration and as an experimental model of the process under consideration. Our aim was to develop a game which we could take to people who are decision makers in education, and get them intrigued with simulation as a way of learning complex relationships in knowledge utilization.

With considerable care, we developed a model environment using a set of rules to define purposeful relationships. We established bases on which participants could take and develop roles in dynamic interaction. We designed a system open enough for participants to construct their roles in tune with their own purposes as well as with ours. Some of the roles encouraged participants to work through problems of designing information systems to be compatible with communication systems of other participants. By cycling

participants through the various roles, we could provide all with opportunities to create such information systems. Time limits prevented such cycling in the game we conducted for this project.

Our game took the form of a live, human, open-system simulation. We assumed that people will learn if:

a) the learning environment is designed for discovery;

b) the environment is complex and rich enough to permit a wide variety of anticipated and unanticipated learning;

c) the learning environment includes personal "stakes" for each participant--he must live with the consequences of his decisions.

In the literature, there are many disputes about what "really" constitutes a "bona fide" simulation. By no means is there consensus. For purposes of this study, we offered a brief statement of what we wanted to mean by open-system simulation. We indicated that such a simulation is a transactional experiential learning environment in which the learner is brought into dynamic contact with significant phenomena about which he is to learn so that he can develop understandings and coping strategies which are uniquely his own. Grossly speaking, simulation is a form of learning by doing. Simulations are dynamic, operating systems in which learners try to develop their understanding and comprehension of social phenomena. In our kind of simulation, we put people in live situations with which they have to cope. Within the context of these situations, there are consequences of the actions participants have to take. Participants can try out strategies on other participants and get some idea of how others re-

late to these. Further, participants learn how well these strategies work. Our simulations can be characterized more as open-system simulations. In them, strategies cannot be specified in advance which unerringly lead to success.

A wide variety of learning and research devices are called simulations. Most differ significantly from the kind of simulation we are concerned with in this project. Law students hold mock trials. Political science students simulate the United Nations General Assembly, American political elections,[6] relations between simulated nations.[7] Economics students simulate economic systems.[8] Business students participate in management games and simulate operation of the business firm.[9] There are simulations which involve the use of computers; some involve only the computer, others include people interacting with the computer.[10] Sociology students simulate society.[11] Student teachers use "classroom simulators."[12] Education students simulate school-community relations.[13] Researchers build simulation models of the processes of innovation diffusion.[14] Then, change agents learn about innovation diffusion.[15] There are math, history, geography, science and word games for elementary school children.[16] An endless variety of educational and research devices go under the name of simulation and games.

Nearly all of these simulations differ from the kind we are developing for this project along one very important dimension: openness. Compared with the kind of simulation we are advocating, most of these simulations are relatively closed. That is, strategies can be detailed in advance which, if used, will unfailingly lead to

success. Closed simulations are quite appropriate if the phenomena

with which they deal can be reasonably viewed as operating as a

closed system. Examples would include flight simulators, wind

tunnels, hydraulic simulation laboratories, etc. Some closed system

simulation approaches are applied to phenomena which cannot be reason-

ably viewed as operating as a closed system. This would include, in

the education and knowledge utilization area, innovation diffusion,

school-community relations, and classroom instruction as well as

most of the other simulations mentioned above. The social conditions

and relationships are displayed in the closed simulation as though

they were necessary ones and as though they were fixed and true in

some ultimate sense. Suppose the phenomena with which the simulation

purports to deal cannot reasonably be characterized in that way.

What is it then that participants learn in the simulation which will

ultimately prove useful when they must deal with the complex pheno-

mena directly? Very little, it would seem. If the phenomena the

simulation is about can only be reasonably viewed in open system

terms, then that simulation should be designed using open-system tech-

niques.[17]

The open simulation is an example of metaphoric thought since

it is not seen as a mirror of a "real life" situation. It is a com-

plete environment in and of itself, but many of its experiences and

attendant learnings can be related--and may prove useful--in a real

life environment. As a metaphoric abstraction, it offers involve-

ment in environments which, in "real life," might be too costly, too

dangerous, too time consuming, or too limited in scope or facilities

to allow for the desired explorations.

As envisioned here, simulation functions in the role of developing metaphorical awareness in the framework of the learning environment. It functions also to build a new structure through which fresh insights can impact the institution and the people in the institution. Finally and perhaps most significantly it focuses attention on the relatedness of things, ideas and situations, rather than on the "right" ways of dealing with these things, ideas and situations. In a more open environment, you cannot specify beforehand the strategies which will surely lead to "success." Success can only be evaluated in terms of purpose. Participants in an open simulation can and usually do have somewhat different purposes. "Success," then, for one person may not be "success" for another. Various strategies may be used. Sometimes, highly similar strategies will lead quite different results. Other times, quite different strategies will lead to highly similar results.

The simulation as described here tries to get at producer-consumer relationships by involving participants in both producer and consumer roles. This encourages comparisons, raising questions like:

- How do individuals adapt an information system to their
  purposes?

- How do individuals stretch their purposes to fit the available
  information system?

- What reward systems might be built into the learning system
  so as to give persons "good reasons" for creating and im-
  proving learning tools and materials?

- What constitutes usable research?

- How can producers take into account communication systems
  and networks in designing or contributing to information
  systems?

- How does one get a system going?

- How does one modify a system?

- How develop long-range thinking and concerns?

- Etc.

THE GAME is a short-run version of the open-system which
might be extended to a large-scale simulation. As an instructional
game, it has specific rules which set an outer limit to the kinds
of interactions which can take place.[18] It has a number of spec-
ified roles to be assumed by the participants. In playing THE GAME,
participants go through processes which are fun and instructional at
the same time.

THE GAME Described

THE GAME is a small-scale teaching-learning system in a "game"
format. It is designed to raise evaluative questions and issues con-
cerning contemporary education systems. It involves pupils who
attend schools to learn, teachers who teach in those schools, and
education-oriented business enterprises which design and market in-
structional aids to help the schools.

The aim of most teaching-learning systems is to "educate"
students so that those students become useful and socially acceptable

members of a larger society. One traditional test of a school's success is the graduates' performance on an approved testing device. Examples of this are the Certified Public Accountants' exams, state bar examinations, teacher certification tests, medical licensing exams, driver's license exams. While these tests are not necessarily related to what goes on in the educational system, or to later performance in the given field, they may have substantial impact on curricular design and on the way people generally think about the field. THE GAME includes such an externally-imposed certification exam, the contents of which are unknown to, and uncontrolled by the schools, the enterprises, or the students. Thus, in addition to satisfying their own teaching-learning criteria, the enterprises, schools, and students have to cope with the imposed criteria of outside evaluators who give significant rewards to those who "perform" satisfactorily.

The subject taught during THE GAME is operation of the Paper Computer. This is a simulated computer system which is manipulated using paper and pencil and which is designed to introduce learners to basic computing and programming concepts.[19] It is not highly technical and demands only a minimal degree of mathematical aptitude; but mastery of it should give the learner basic ideas of what a computer is, how it works, and what computer programming involves. The Paper Computer has all the essential elements of any computing system including its own simple programming language and thus it gives a learner an opportunity to apply his learning by writing computer programs to solve simple problems.

Participants in THE GAME usually start on the same basis, ignorant of the specifics of the Paper Computer. Where they finish depends upon the choices they make during THE GAME, and the effort they invest in it. Thus, foci of THE GAME are the various strategies developed and implemented by participants. Are the various ways educational enterprises develop and present their educational packages related to success in learning the "same" subject matter? Is the teacher's selection and then implementation of the various teaching aids relevant? Do different teachers get different results from using the "same" instructional packages? How do these choices and differences interact and what effect do they have on students in various schools? These are only some of the issues and questions which THE GAME is designed to raise.

In THE GAME, there are always at least two competing educational enterprises, each of which consists of at least three persons who work together to prepare an instructional package to sell to the schools. These people have a very vital role in THE GAME and their participation demands the greatest commitment of time and effort. They must begin preparing their educational packages before they meet the other participants.

Next, at least three schools are formed. Each consists of a minimum of two teachers. These schools are visited by enterprise sales representatives. Then, teachers in each school must decide which instructional package to purchase. Once this is done, the teachers must be trained by enterprise members to use the package.

Students are brought into THE GAME and enroll in one of the

schools. Enrollment for a given school may be facilitated or impeded by wheeling and dealing, bargaining, etc. Such bargaining can include tuition, rates, scholarships, entrance exams, guarantees of success on the certification test, etc. Then, classes get underway. The form they take depends on what both teachers and students make of them. .

After classes are finished, all participants take the certification exam.

This step is followed by one central to our purposes, the debriefing. This is an intensive discussion of what went on at various levels of interaction as seen by the participants--within each individual, between individuals and within and between groups. Participants try to get at why various decisions were made and the impact their decisions seemed to have on others. They check assumptions with each other: Was the impact they intended the one that occured? Did people do certain things for reasons anticipated, or for quite different reasons? Participants check on the success of their various efforts. They compare and evaluate the strategies and tactics of enterprises, schools and students. Why did students in one school seem to do better than those in another? Where two schools used the "same" enterprise package, what accounted for differences in results? Why did one student do much better than another when both attended the same school? Why did the members of one enterprise decide to construct a relatively closed package while another chose to make a relatively open one? Etc.

A simulation like this can be extended several semesters or

several years. It can involve graduate and undergraduate students, researchers, administrators, etc., taking each of the various roles. In pupil roles, participants can explore alternative ways of learning and become socialized into the system. Playing the teacher and development roles they would again explore learning, but would posture themselves differently, acting as knowledge producers and, to a certain extent, controllers, agents, and systems developers, rather than simply knowledge consumers.

Observations on Playing THE GAME

We "played" THE GAME with Ph.D. students and faculty in the University of Iowa School of Journalism; with high school and college journalism teachers at the annual convention of the Southern California Journalism Education Association; and with communication scholars at the annual convention of the International Communication Association. We chose these three groups partly out of convenience. All were participants in institutional education. Teachers, administrators, students and researchers were all represented. Furthermore, we could depend on finding relatively little knowledge of the "subject," the Paper Computer, by most participants. Easy access was afforded by relatively direct ties with the organizations involved. Participants came from places far apart.

In the following paragraphs, we summarize our observations of each playing of THE GAME.

1. University of Iowa School of Journalism

Since we played this game at our home base, we had excellent cooperation from participants.

The two enterprises involved prepared distinctly different teaching-learning packages: one heavily oriented to visual aides and one-directional instruction; the other emphasizing the learner's freedom (or responsibility) to choose whether or not he wanted to learn the content at all.

The schools also took distinctly different approaches to their task of teaching the Paper Computer. One school used its packages pretty much as intended by the enterprise. The second went so far as to hire for its faculty a key member of the enterprise with the more programmed package. The third school took the approach that "you'll learn this stuff if you're really interested, so here are some manuals, and good luck!" The major portion of the "teaching" period was devoted in this school to discussion of why anyone would impose content matter on anyone else, and how one might creatively approach learning in a stressful or oppressive situation.

Participant reactions and strategies also varied widely. Some players were paying close attention to the instructional content, intent on learning the operation of the Paper Computer. They went along with the rules and procedures, picking the school (or enterprise) which was most likely to serve up teaching in the most useful form.

Other participants were less concerned with learning the con-

tent and more concerned with process (what was happening, and how, and why). The discussion following THE GAME focused on:

- Experiential learning as it helps one to see better connections and dependence between enterprisers, teachers and students in creating learning situations;

- How a simulation can be open and closed at various stages, as determined by participants in the simulation;

- How a participant in the role of a student sees a teacher also as being in the role of a student, in the sense that a teacher must learn what and how to teach using an enterprise's package or not;

- How student success or failure in the task presented to him is shared by both teachers and enterprisers as well as the individual student;

- How learning through THE GAME process can create greater awareness on the part of participants of what goes into a learning situation--i.e., interaction between participants at all levels and the way they draw on various methods, procedures, and techniques to achieve their instructional and learning purposes.

2. Southern California Journalism Education Association Convention

In Los Angeles, at the Southern California Journalism Education Association, some participants wanted very specific tools and tricks for immediate and almost identical replay in their classrooms the next week.[20] These participants were quite uncomfortable about playing with a Paper Computer all day since most had decided, almost

from the start, that it has "nothing to do with Journalism teaching," and "my kids don't need this to put out a paper." It appeared initially that they were either unable or unwilling to look at learning processes and at the communication system they were developing and operating within during the six hours THE GAME ran. Even so, none of those who started dropped out of THE GAME.

It was somewhat encouraging, especially in light of the assumptions underlying this Pilot Study, that some of the participants began to "catch on" to THE GAME'S purposes. Some of them, in the debriefing sessions which followed completion of THE GAME, indicated recognition that:

a. tightly structured objective testing (such as was employed in THE GAME to get at content mastery of the Paper Computer) can have a negative impact upon the individual student's attitude toward and success in a given subject or discipline;

b. the range of opportunities depends on how participants structure things within the rules and roles; and

c. there is greater personal commitment in a learning situation which throws greater responsibility for consequences on the learner.

3. International Communication Association Convention

In Atlanta, our third attempt at playing THE GAME clearly brought out some participants' concerns with education processes and

their differing philosophies.[21] It also demonstrated some dif-
ficulties which can be encountered in presenting game-simulations
in a convention setting.

We encountered problems with persons who agreed to participate
in THE GAME and later cancelled out. They did so after more fully
realizing the time commitment required. Some dropped out to attend
other sessions. When the convention started, we felt that we had
managed to deal with these problems and had sufficient people to run
the simulation.

The initial stages ran smoothly, better than at the other con-
vention. The enterprises presented their wares to the schools, the
schools made their selections of enterprises, and the teacher training
sessions got under way. However, when it was time for the schools
to begin recruiting pupils, we had too few participants. Many of the
people who had committed to play simply failed to show up. Rather
than cancel THE GAME at this point we discussed our problem with the
people who had come, and they volunteered to try to recruit additional
participants.

We rescheduled THE GAME for the following day, but again found
we still had too few participants. We cancelled the rest of THE GAME.
However, we had a long and fruitful discussion of THE GAME and of
the theory and philosophy of gaming and simulation.

An obvious point for discussion was why we were unable to
attract enough participants to run the full simulation. Among the
explanations proposed: time at a convention is too short to devote
a major proportion of it to any single activity; conventions are

meant to be social and no one wants to deal with anything as "ser-
ious" as a simulation; conventions are gatherings of scholars who
don't want to deal with anything as "frivolous" as THE GAME; some
competing activities had more drawing power; there wasn't enough
publicity about THE GAME. Our discussion revealed we had had mail-
ing problems of which we were not aware. This resulted in poor
timing. It appeared that we should have developed our own mailings
for each convention, rather than depending on the ordinary conven-
tion mailings. These problems need to be considered by others
running simulations at conventions. A simulation such as this
should not be merely tacked on as another alternative to the conven-
tion-goer, but it should be an integral part of the whole convention.
Perhaps a better situation would be a workshop with an entrance fee.
This might be run exclusively for THE GAME, or even as part of a con-
vention.

Discussing what actually took place during THE GAME brought
out several interesting insights into participants' thinking.
Various "enterprisers" and "teachers" revealed why they had per-
formed as they did and explored alternative strategies they might
have followed. Two schools which purchased their instructional
package from the same enterprise arrived at their decision for much
different reasons. One used it because it demanded much less work
than the other enterprise package; the other "bought" it because
the enterprise salesmen convinced the school teachers that they
could use or not use the package, as they pleased. Teachers of this
school wanted to create their own approach. The discussion continued

along these analytical, philosophical lines, focusing on the processes

of THE GAME. It avoided the trap of arguing about the content of

THE GAME, which had been a problem during the Los Angeles meeting.

The discussion spun off from the specifics of THE GAME to more

general applications of gaming and simulation. We talked about the

Iowa School of Journalism undergraduate simulation and possibilities

for an extended simulation which might be used in a college of ed-

ucation. Several of the discussants suggested alternate approaches

that might be used in a college of education. Others suggested

smaller-scale simulations which might be more viable for presenta-

tion at a convention.

One other important point discussed: the problem of valida-

tion of simulation as a learning tool. Since learning in this kind

of simulation is often individual and complex, it does not submit

well to standard evaluation procedures. The discussion lasted

nearly three and one-half hours.

Conclusions and Recommendations

We are very much encouraged by the results we obtained from

playing the rather simple game we designed. Participants found THE

GAME compelling. They took their "play" in THE GAME seriously.

Even those who claimed they did not like playing THE GAME did not

drop out. Further, nearly all participants tried to do well on the

certification exam. Participants accepted the pretense of THE GAME.

They could and did use it to create a rich environment with compli-

cated patterns of interaction. In this GAME, some participants developed strong commi   's and feelings. In Los Angeles, some high school teachers expected to do better on the certification exam than they did. They thought they had learned their lessons well. These teachers developed some highly intense feelings about both the exam (how unfair the exam was and it did not "really" measure their learning) and THE GAME. This was despite the fact that what happened during THE GAME was not going to have any direct consequences for any other sector of their lives. What people did, the way they related to and interacted with each other, and the perceived consequences of their own and others actions were important to participants.

There is considerable educational potential inherent in open simulations with the type of environment just described. They are ideal laboratory settings for people to exp'ore, develop, implement, and try out communication strategies on other people, like those involved in knowledge utilization. Putting important educational ideas into practice is rarely accomplished by just "telling" somebody about the ideas. Also involved is construction of social order. Social order is needed to permit, support, and facilitate an innovation's initial adoption and continued use. The environment in THE GAME seems to be ideal for getting this kind of experience. Consequently, our original notion of using both short and extended simulations in colleges of education was encouraged by our experience with THE GAME. Potential teachers, administrators, and educational researchers would be participants in such simulations. They could

PS-91

examine their own and others' roles in a context which centered around each trying to achieve task-related ends deriving from their roles. Cycling through roles, participants could develop further valuable insights into roles other than the one they may be specifically training for.

A recent major review of the literature on knowledge utilization (Havelock) makes a strong case for perceiving knowledge utilization as requiring close, collaborative interaction among knowledge producers, development teams, practitioners, and client groups.[22] The burden of Havelock's argument is that there is need for continuing, two-way communication among all actors in knowledge utilization to define problems and needs, to translate knowledge into plausible alternative solutions, and to assess the effectiveness of the presumed solutions in resolving the problems to which they are addressed.

Simulations of the sort we are working with in the project seem ideal for facilitating the kinds of interpersonal, inter-role relationships Havelock is urging. They could be used for in-service training for persons already functioning in the process as well as for training of new persons.

One criticism of present educational systems is that educational researchers (knowledge producers) do not get rewarded for producing innovations which educational practitioners can use. Further, generally speaking, teachers (knowledge utilizers) do not get rewarded for seeking and adopting innovations which permit them to do a better job in the classroom. The reward systems and professional

identifications for these two groups are basically independent of each other. With simulations of the sort we propose, we do not have to be content with working with the existing social order. In an open simulation, we can manipulate roles and patterns of interrelationship of participants and build into it reward systems for knowledge producers and utilizers which would be mutually interdependent. Researchers would get rewarded for developing practices which teachers adopt. Teachers would get rewarded for adopting practices which would improve their efficacy in the classroom. With open simulations you can explore, in a dynamic interesting fashion, the kinds of ideal situations which Havelock considers appropriate models for knowledge utilization in education.

Given our experience with this and other simulations, we recommend the following:[23]

  a. A series of games in which people who play vital roles in educational knowledge production and utilization work through various ways of relating to each other. These could help increase intercommunicational abilities among such people. Such games might also help them and us to create long-term simulations to be introduced into formal training of teachers, administrators, researchers, etc.

  b. A series of linking games to be used in training field agents. The games would provide linkers opportunities to try alternative strategies and techniques in linking educational researchers and specialists with practitioners.

c. A series of games conducted by field agents with school
   personnel, parents, pupils, etc., where participants
   try new alternatives, discover some of the benefits,
   bump into the problems, work through adaptations, select
   what works well, modify or eliminate what doesn't, etc.
   Since adoption of innovations in schools is often more
   complicated than that on farms, this application might
   have the greatest pay-off of all.

d. A series of games in which N.I.E. personnel, media spec-
   ialists, communication and learning theorists, parents,
   adolescents, etc. could work through alternative systems
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ulation and Games." A paper presented to a joint session of the Speech
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An unpublished manuscript, February, 1970.

[18]See Appendix A for the specific rules used.

[19]This was adapted from Chapter 1 of: Organick, Elliott I.
A Fortran IV Primer. Reading, Mass.: Addison-Westley, 1966.

[20]See Appendix B for the proposed schedule for THE GAME as
it was to be played in Los Angeles.

[21]See Appendix C for the proposed schedule for THE GAME as
it was to be played in Atlanta.

[22]Havelock, op cit.

[23]C. West Churchman: in his research memo for this project,
"Statistical Methodology of Information Systems," helps clarify the
logic behind our recommendations here. See particularly the last
five or so pages of the Churchman memo.

Appendix A

Rules of THE GAME

1. Anything not specifically prohibited in these published rules is
   permitted. If there are any disputes or problems they will be
   settled by THE GAME's Directors.

2. THE GAME involves participants in three different roles. These
   roles are assigned by the Directors prior to THE GAME, and par-
   ticipants are not allowed to change roles during the course of
   THE GAME.

   a. ENTERPRISES are three-person teams who work to develop and
      sell instructional packages for teaching the use of the
      Paper Computer.

   b. SCHOOLS consist of two Teachers who buy the learning packages
      developed by the ENTERPRISES and use them to teach PUPILS
      about the Paper Computer.

   c. PUPILS are individual participants who enroll in and attend
      classes in one of the SCHOOLS so that they will be able to
      score well on the Paper Computer Certification exam which is
      given near the close of THE GAME by the Directors.

3. Scores on the exam determine the winners of achievement awards
   offered by the Directors.* There is a total of 160 points to be
   awarded to ENTERPRISES, SCHOOLS, and PUPILS.

   a. PUPIL points: the five top-scoring PUPILS receive 25, 20, 15,

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*Awards could be in a variety of forms: tokens, colored ribbons, cer-
tificates, books, money or other things of value.

10, and 5 points respectively;

    b. SCHOOL points: 25 for the SCHOOL whose PUPILS have the highest average score; 10 for the SCHOOL which taught the highest-scoring individual PUPIL.

    c. ENTERPRISE points: 40 to the ENTERPRISE having the highest average score for all PUPILS in all SCHOOLS using their teaching package; 10 to the ENTERPRISE whose package was used in the top SCHOOL.

4. Each ENTERPRISE and SCHOOL must fill out and file a charter form with THE GAME's Directors at the beginning of THE GAME. Each charter includes (a) the name of the ENTERPRISE or SCHOOL, (b) a brief statement of the group's organizational structure and any operational policy, (c) designation of a Chief Executive Officer who is the official document-signer for the group, and (d) a description of how the group's points will be divided at the close of THE GAME.

5. SCHOOLS and ENTERPRISES must operate in strict accordance with their charters at all times. Any changes in the charters must be authorized and approved by the Directors.

6. Each ENTERPRISE must prepare an instructional package which it plans to sell for points to the SCHOOLS. The packages can be as elaborate as the ENTERPRISES wish to make them and the SCHOOLS are willing to buy. Among the things which might be included in a package are textbooks, visual aids, programmed learning texts, teachers' manuals, self-instructional material, aptitude or a-chievement tests, promotional and recruiting materials, sugges-

tions on STUDENT contracts, and any number of other things.

7. ENTERPRISES sell their learning packages to the SCHOOLS for points by entering into a written contract with each SCHOOL they sell to, specifying the exact terms and conditions of the sale. A copy of this contract must be on file with the Directors before a SCHOOL may begin to enroll PUPILS. The contract must be signed by the Chief Executive Officer of the SCHOOL and ENTERPRISE. Contracts for the sale of learning packages may involve any mutually agreeable condition(s) arranged by the ENTERPRISE and SCHOOL involved; among the possibilities are: a) a flat fee for the learning package; b) a fixed rate paid for each PUPIL enrolled by the SCHOOL; c) a percentage of each PUPIL's enrollment fee; d) a percentage of the points won by the SCHOOL; or e) a performance contract whereby the SCHOOL pays points only if its PUPILS achieve an acceptable level of proficiency.

8. Every ENTERPRISE must sell a learning package to at least one SCHOOL, but no ENTERPRISE may sell to all SCHOOLS. Every SCHOOL must purchase a package for use in both instructional sessions. Beyond the terms of their contracts, SCHOOLS are not restricted in their use of the learning packages.

9. Each PUPIL starts THE GAME with a fixed number of points used to pay enrollment fees or to buy instructional material from the SCHOOLS. The SCHOOLS then use the points to buy from the ENTERPRISES. THE ONLY POINTS ALLOWED IN THE GAME ARE THOSE PROVIDED BY THE DIRECTORS. If there are 24 PUPILS in THE GAME, with 5 points each, there would be a total of 120 points available for SCHOOL

tuition fees.

10. SCHOOLS recruit and enter into enrollment contracts with PUPILS.
    Copies of these contracts must be given to the GAME'S Directors.
    The initial contract must be for both instructional sessions. The
    enrollment contract must be signed by the Chief Executive Officer
    of the SCHOOL and the PUPIL and must specify the enrollment fee.
    Some possible arrangements for the enrollment fee might include:
    a) a flat fee; b) a percentage of anticipated points awarded; c)
    payment for only instructional services used by PUPIL; d) some
    kind of performance contract; and e) whatever other mutually
    agreeable arrangements which do not violate the roles.

11. To avoid an educational monopoly, there is an upper limit on en-
    rollment per SCHOOL. For example, if there are 24 PUPILS and 3
    SCHOOLS, a maximum of 10 PUPILS is allowed per SCHOOL. If there
    is a different number of PUPILS and SCHOOLS, the maximum enroll-
    ment will be modified proportionately, and announced by THE GAME's
    Directors.

12. PUPILS not under enrollment contracts just prior to the start of
    either teaching session will be assigned to SCHOOLS with vacancies.
    These PUPILS must sign an enrollment contract and pay the appro-
    priate fees to the SCHOOL.

13. If for some reason a student changes SCHOOLS (wishes to change,
    is expelled or fails or whatever) at the end of the first session,
    enrollment changes, including fee refunds, are permitted prior
    to the second instructional session, unless otherwise specified
    in a given SCHOOL'S contract.

PS-101

14. Promotional or instructional contact with SCHOOLS or PUPILS by the ENTERPRISES prior to playing sessions of THE GAME is prohibited.

15. During THE GAME, ENTERPRISES may promote their packages among the SCHOOLS but may not promote them directly to the PUPILS.

16. ENTERPRISES may take NO ACTIVE PART in any SCHOOL'S work with PUPILS, nor participate in direct instruction of PUPILS IN ANY MANNER. They may conduct training sessions for the Teachers of the SCHOOLS which have purchased their packages.

17. Members of the ENTERPRISES may observe the teaching in SCHOOLS WHERE THEIR OWN PACKAGES are in use, and may consult with teachers as necessary ONLY outside the classroom.

18. If a SCHOOL doesn't earn enough points to pay its debts, its assets (enrollment and awarded points) are pro-rated among its creditors.

19. All assets of SCHOOLS or ENTERPRISES are to be distributed among the members in whatever manner they see fit or have agreed upon at the outset of THE GAME.

20. Collusion, price fixing, and kick-backs are all prohibited. Violations automatically exclude those involved from winning points.

REMEMBER: ANYTHING NOT SPECIFICALLY PROHIBITED IN THESE PUBLISHED RULES

IS PERMITTED.

Schedule for Saturday, April 15, 1972*
Southern California Journalism Education Association Convention
Los Angeles, California

Beginning at:	Enterprise members	Teachers	Pupils
9:30	Orientation - Regency Room	Orientation - Regency Room	Orientation - Regency Room
9:45	Meet with the schools to sell your packages and train the teachers to use them.	Shop among the enterprises to select and purchase a teaching package; then learn to use it.	
11:00	"	"	Orientation; begin registration
11:15	"	Latest possible time to begin enrolling students.	Choose a school and enroll in for teaching sessions.
12:00	You may observe classes in schools using your teaching packages; or you may continue training teachers.	First class session: School A) Conf. Room A B) Conf. Room B C) Conf. Room C	First class session: School A) Conf. Room A B) Conf. Room B C) Conf. Room C
1:00	Lunch break	Lunch break	Lunch break; study, meet with teachers as you need and they are available
2:00	Consult and advise schools using your teaching package if they need help.	Counsel individual students, register any "transfer" students, or consult with the enterprise whose package you are using if you need help.	Consult with your teachers if you need help, register with new school if you've decided "transfer" schools, study or socialize in the lounge.
2:30	Observe the schools using your teaching package if you wish.	Second class session; same rooms as earlier.	Second class session; same rooms as earlier.
3:30	Take Certification Exam.	Take Certification Exam.	Take Certification Exam to determine proficiency and award winners.
4:00	General debriefing, discussion, analysis for all participants - Regency Room.		

*Schedule which was given to participants at the convention.

THE GAME

Schedule for Thursday, April 20 and Friday, April 21, 1972*
International Communication Association Convention
Atlanta, Georgia

Beginning at:	Enterprise members	Teachers	Pupils
Thursday:			
1:00	Orientation - Alabama Suite	Orientation - Alabama Suite	
1:15	Meet with the schools to sell your packages and train the teachers to use them.	Shop among the enterprises to select and purchase a teaching package; then learn to use it.	
3:30	"	"	Orientation - Alabama Suite
4:00	"	Latest possible time to begin enrolling students.	Choose a school and enroll in it for teaching sessions.
Friday:			
4:15	You may observe classes in schools using your teaching packages; or you may continue training teachers.	First class session: School A - Mississippi Room B - Louisiana Room C - Georgia Suite	First class session: School A - Mississippi Room B - Louisiana Room C - Georgia Suite
5:10	Consult and advise schools using your teaching package if they need help.	Counsel students, register any "transfer" students, or consult with "your" enterprise if you need help.	Consult teachers, register with a new school if you've decided to "transfer," study, or socialize.
5:30	Observe the schools using your teaching package.	Second class session; same rooms as earlier.	Second class session; same rooms as earlier.
6:30	Dinner Break	Dinner Break	Dinner Break
7:30	All participants take Certification Exam to determine proficiency and prize winners - Miss.-Louisiana Suite.		
8:15	General debriefing, discussion, and analysis for all participants - Mississippi-Louisiana Suite.		

Appendix D

Publications on "New" Undergraduate Program
School of Journalism
University of Iowa

Thayer, L., "Studies in the Development of Administrators: II. An
    Experimental Program." College of Business Administration,
    Wichita State University, 1964. (Excerpts of a report.)

MacLean, M.S., Jr., "A Process Concept of Communication: A Position
    Statement for the Educational Policies Committee." School of
    Journalism, University of Iowa, November 17, 1966.

Budd, R.W., and MacLean, M.S., Jr., "Applying Communication Principles
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    Annual Conference of the National Society for the Study of
    Communication, Boulder, Colorado, August 29, 1967.

MacLean, M.S. Jr., "On the Education of Responsible Newsmen." A
    paper presented to the 23rd Annual Conference of the American
    Association for Public Opinion Research, Santa Barbara, Calif-
    ornia, May 8-11, 1968.

MacLean, M.S., Jr., "Theory, Method and Games in Communication." A
    paper presented at a meeting of the Behavioral Science Section
    of the International Association for Mass Communication Research,
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    Theory Through Simulation and Games." A paper presented to a
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    ember, 1969.

Ruben, B.D., and Talbott, A.D., "The Communication System Simulation:
    An Overview." School of Journalism, University of Iowa, January,
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MacLean, M.S., Jr., "Journalism Education at the University of Iowa."
    A paper based on a talk to alumni of the University of Iowa School
    of Journalism, New York City, April, 1970.

Thayer, L., "Systems, Games, and Learning." A chapter for a book
    edited by R.S. Lee entitled Experience Learning. New York:
    Basic Books.

Talbott, A.D., and Straus, H.E., "The Communication System Simulation:
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"The New Experience Based Journalism." A pamphlet prepared for the
Admissions Office designed to be sent to prospective undergrad-
uate students, School of Journalism, University of Iowa, 1971.

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Excerpts from a Pre-Visit Accreditation Report prepared for the
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"Communication: Challenge for Journalists." A newsletter about the
School of Journalism, University of Iowa, prepared by students at
the School, Winter, 1972.

Sabine, Gordon A., "What University of Iowa Journalism Students
Think of the University of Iowa School of Journalism." A Talk
given to Journalism students, April, 1972.

Lee, Jae Won, Malcolm S. MacLean, Jr., Albert D. Talbott, "Simula-
tion as a Metaphoric Method of Communication Education." A
paper presented at the International Communication Association,
Atlanta, Georgia, April, 1972.

Manuals Used

Talbott, A.D., and Ruben, B.D., "Communication System Simulation:
Participant's Manual." Iowa City: School of Journalism, Univ-
ersity of Iowa, 1970. (Used during the Spring Semester, 1970.)

Ruben, B.D., Talbott, A.D., Brown, L.M., and LaBrie, H.H., Intermedia:
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Special Note

The documents listed in this appendix are ones which are currently (Fall, 1972) available upon request from the School at a nominal charge. The only exception to this is Intermedia: Participant's Manual which is only available from the publisher. This list of publications is a selective one. These publications are basically concerned with the "new" undergraduate program of the School of Journalism at the University of Iowa.

Since the Fall, 1969, the basic journalism major at Iowa has consisted of eight courses taken two at a time for four consecutive semesters (two school years). In each pair of courses (accounting for six credits), taken each of the four semesters, one is a more traditional lecture-discussion-assigned reading-exercises-written assignment-examinations variety, and the other is a large scale extended simulation. Each student participates in the simulation for two years. There are about 250 participants. The simulation accounts for one-half the 24 credit hours required of a general journalism major. Generally speaking, the simulation replaces a significant part of the traditional writing-reporting-editing laboratories in which students write, report and edit for a single instructor. Shortcourses are still available in which students may opt for additional conventional instruction in these areas to supplement their simulation work. Also, students are strongly urged to seek out opportunities for on-the-job training within the media for which they hope to work after graduation. The Iowa simulation is not an extra activity in which students may or may not participate. It is a required activity for all undergraduate journalism students and is a key part of the Iowa journalism program. It is used as a major teaching-learning vehicle.

The publications in this list are concerned with all aspects of the undergraduate program at Iowa just briefly described. This would include the planning, development, philosophy, rationale, objectives, structure, requirements, operation, as well as the concepts and theory underlying the program. These publications are not only concerned with the simulation but also with the basic program in which the simulation is embedded. Knowledge of the context is important to a basic understanding of this particular use of simulation techniques.

Appendix E

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FINAL REPORT: PILOT STUDY #8

A "Natural" History of Ideas Approach to "Knowledge" Utilization

Project Coordinator: Elizabeth S. Conley

This pilot study was conducted in order to probe the theory
that certain kinds of "knowledge" that could be helpful to teachers
in the educational enterprise could better be disseminated in an
"embodied" form than in a more impersonal and abstract form such
as print. This "embodiment" was to take the form of a prototype
of certain exhibits that might be included in a museum of ideas
about teaching and learning.

Three exhibits were designed to test out this theory. The
exhibits included two films, one about an open classroom, the other
a split screen film that contrasted the kind of learning going on
in school with types of learning occurring outside the school. The
third exhibit was a diarama of John Dewey and a scene from the
Chicago lab school. This exhibit included a tape with a facsimile
of Dewey's voice quoting some of his statements about experiential
education. In the two weeks the exhibits were on display 60 people
came in to visit. Most were involved, or planning to be, in educa-
tion. The evaluation of the project was informal. Comments of the
participants and their general attitudes were noted.

The most encouraging aspects of the viability of such a
project was the general enthusiasm and interest of the visitors.

PS-118

Most seemed willing to remain and ask questions about the ideas presented as well as about the project itself. Over one-fourth requested further information about some of the ideas presented in the exhibits.

Rationale

Much of the "knowledge" generated by research in education is reported to the potential consumers of such "knowledge" in an abstract, impersonal form. However, since experience seems to be the most relied upon method that teachers use to acquire knowledge about education, it seemed feasible that the closer educational research could come to first person experience the more usable the information would be for the teacher. One method for approximating this kind of experiential feeling would be to try to "embody" knowledge in a form similar to a museum of natural history.

Besides the advantage of utilizing knowledge in an "embodied" form, the museum as a vehicle for knowledge utilization capitalizes on several other areas of human conduct. First, the museum-goer is a self selector. There are no requirements that an individual has to visit any museum, or once there follow any pre-set pattern of exhibits or specific time investments. This freedom of movement and self-selection encourages the museum-goer to rely on his own curiosity and felt needs in viewing the exhibits he chooses. He also has the opportunity to do a good bit of browsing in the course of visiting a museum that may act as a catalyst for incorporating new ideas into his educational framework. Leisure time

is frequently used for visit the museum.   In this the museum

tends to become a sort of "play-ground" which is conducive to a

free play of the imagination.   This might be fertile ground for

helping the individual increase his desire to inquire independently.

Since it was not feasible at this time to construct even a

very small museum, we developed only three exhibits to serve as

prototypes of some kinds of features that might appear in such

a museum.   The exhibits were billed as a "Mini-Museum" so that

potential visitors would use this as a frame of reference.

One of the exhibits held some similarity to the classroom

simulation films developed and used by Bert Kersh at Oregon State.

Kersh studied the usefulness of such simulations for training

elementary school teachers.   Kersh's method included ways of

"feedback" that might be very useful in constructing future

exhibits.   In this manner the participant can interact with the

projected situation such as the open classroom and experience

the situation much more realistically.   This method would more

closely approximate the "Link trainer" model in which the partici-

pant simulates a real experience.

Some of the same ideas are being carried out in a film

series developed by Universal Education and Visual Arts entitled

"Museum Without Walls."   These films focus on artists such as

Picasso, Goya, and Le Corbusier and attempt to give the art

experience kinetically much as the artist himself would feel it.

The success of these projects as well as the remarkable attendance

PS-120

at outstanding museums such as the Smithsonian or Chicago Museum
of Science and Industry seem to indicate strongly that a museum
approach to knowledge utilization holds great promise.

Museums are a rich part of our American culture. One only
has to travel in the summertime and visit some of the historical
spots in our country which have gathered together materials and
displays and watch the crowds who are eager and enthusiastic. They
are even willing to wait in lines and pay admittance fees to view
such things as the colonial town of Williamsburg, Virginia, the
estate of Thomas Jefferson at Monticello, the site of the first
airplance flight at Kittyhawk and countless other spots of histor-
ical interest. In some ways this vital interest is utilized at
Disneyland where many of the features are reconstructions of past,
present or future events, but designed so that the viewer can
either participate or at least experience the event in some type
of embodiment. It seems to work exceptionally well in the museums
already set up as well as in Disneyland. The various nonprint
historical, geographical, topological and other aids developed to
enrich the experience of visiting our national parks have also
been very effective. It may have some of the same impact in the
area of education.

Description of the Project

Three exhibits comprised this prototype museum on ideas about
teaching and learning.

The first was designed to give the viewer some vicarious
experience of what it would be like to teach and learn in a school
that was based on the concept of the "open classroom." This par-
ticular concept was chosen because of the growing interest in the
open classroom which has been reflected in recent television
documentaries on education as well as in the popularity of authors
such as Charles Silverman, Johnathan Kozol, John Holt, and Neil
Postman, who frequently refer to this idea.

I had three years teaching experience in an inner-city high
school using many of the concepts behind the "open classroom" and
participated in video taping two documentaries on the school. With
this experience I felt that I was in a position to help make a
film that would hold enough dramatic appeal for interest without
undue distortion of what an "open classroom" is like on a day-to-
day basis.

The exhibit was constructed by making a sound film in a local
school which has been using the "open classroom" approach for the
last three years. The film was then shown in an enclosed and
darkened space where the viewer set comfortably in a sound chair
so that he was as completely involved with the film as possible.
Henry Sabin School in Iowa City was chosen ... the school in which
the film was made. Sabin is an older sc.   ... older section of
the city. It seemed a good idea to use this kind of situation
rather than a brand new school with latest equipment, in order to
emphasize that an "open classroom" depends more on the force of

ideas and people than on the physical plant or structure. Originally, the film was planned to be from five to seven minutes in length. However, it was lengthened to ten minutes because of the richness of the environment of this particular school.

The film used one of the teachers and a third grade student as narrators. The film opened with a teacher arriving at school and joining in one of the frequent discussions held in the faculty room. Next, students entered school and aspects of student activities were shown. These included "contract learning," student-led discussions on urban planning, an extremely active spelling "race," student tutors, and open use of the facilities of the school by students. Although these sequences showed only a small fraction of the activities going on in the school, the principal, faculty, and students were pleased with the integrity of the overall effect.

The second exhibit consisted of two 8mm films which were shown simultaneously on two rear screen projectors. One film depicted ordinary classroom activities such as answering questions from a teacher, filling out worksheets, moving through halls in ranks and working on projects. The other depicted learning activities outside the school such as shopping in a supermarket, riding in a car, playing games, examining flora in a park, apprenticing in construction, and so on. Accompanying these films was an audio tape suggesting ways of learning outs   for   ool curriculum and ways that teachers could utilize such learning within the school. The audio tape had lively music as introduction and background.

The third exhibit was ...iarama featuring a miniature wax figure ... John Dewey engag... ...iting at a desk. On one side of the diarama three othe... depicted a school situation at the lab school in Chicago ... ey directed for several years. An audio tape with a facsi... ...ewey's voice commenting on experiential education acc... ... the diarama. Selected quotations from Dewey's book Experien... ...ducation were used for the tape along with a brief introduc... ...out John Dewey and a resume after the Dewey quotation. John De... ...was included for historical interest and as a forerunner to many ... philosophical ideas behind the "open classroom." He has b... profound thinker and influencer ... some of the educational theor... in the United States and as such seemed to merit an exhibit in ... en such a limited project.

Location

The prototype museum ... situated in one of the education buildings of the University of Iowa campus which houses the education library. The thinking behind such a location was that many teachers would at one time or other during the summer session need the library and from there visit the museum. Because of space limitations, the room assigned was somewhat out of the way, thus requiring that anyone who visited the museum had to make a definite decision to do so.

Results

During the two week period 60 persons visited the museum.

Th-y stayed an —erage of 17 minute, ranging from a few se_

over an hour. t about 17 minutes to complete all ____

exhibits. Twen— - per cent requested further informati

about some of : presented in the museum. Many of th

museum-goers ____ to ask questions about some of the con__

presented. technics used in the museum itself, and

relate ex_ their own on subjects presented in the

exhibits. The museum-goers were almost without exception ei—er

teachers of students preparing for teaching or other education

personnel su_ as counselors. One visitor was a museum director.

One woman came back three times, once herself and two times

subsequently to bring her daughter and then her son. She was

interested i the educational ideas for herself and for her

daughter. She thought the son would be interested in the machines.

Some Comments Made By Participants

"I've been interested in the open classroom idea for a long
time, I was really glad for a chance to see it."

"Those are fascinating figures. How did you make them?"

"Is this exhibit going to travel? I would like to put my
name down for my school to have it if it is."

"What's the point of this exhibit? . . . just to show that kids
learn outside of school? Everyone knows that anyway."

"I'm taking a seminar n creativity in the classroom and
these films really f_ what we're discussing. I asked everyone in

. the seminar to come   and look at it. Do you have the   terials
I requested ready y   I wou d like to use them for the   minar."

Time Schedule

The museum was in   rati   from June 21 until Jul ", 1972.
This gave a total of 11 c   d   r discount ng weekends a d holidays.
The schedule was delayed =   e previous time schedule since
there were several problems .   lab work on   films used in the
museum. We used 8mm film l   for the exhibit   since they could
be easily automated.   owe   the laboratory found it difficult
to reduce the film.

Notification to the Public

A total of twenty-five signs were posted on and around the
University campus inviting the public to visit a "Mini-Museum on
Ideas About Teaching and Learning." This was thought sufficient
to let interested persons know about the museum.

Other Notes

Originally the prototype museum was conceived as a completely
automatic venture. However, because of techni al problems it was
necessary to have someone in attendance at all times. A young high
school student volunteered for the project and was quite an asset
as an informal recorder of comments and reactions to t   museum.

It is interesting to note that proctoring the museum seemed to prove a most worthwhile learning experience for the high school attendant. Although this was not a planned consideration, I am hopeful that many of the teachers visiting the museum became aware of the value of such an experience for a high school student.

Evaluation

In dealing with communication systems it is almost impossible to measure in any way or to evaluate in objective terms just how much "use" any particular piece of data will be put to by an individual. Therefore, in this project, while I can document the number of individuals who went out of their way to come to visit the exhibits, can list the amount of time spent and number of exhibits that an individual looked at and followed through to the end, and the percentage that requested further information dealing with the topics in the museum, I cannot state what this means with any degree of precision. What I can do, and think that in the long run this is more helpful, if less precise, is give my impressions of what was happening with this display.

First, I would like to give a little of my own background as I think this will be helpful to explain the base from which I formed my impressions and intuitions about the project. I have been a teacher in secondary schools for six years. The last three years I taught at St. Mary's Center for Learning in Chicago which began an experimental program the year I started there.

PS-127

I was instrumental in developing and implementing the curriculum which had as its primary aim the structuring of an environment in which students and teachers could develop optimally as free, inquiring agents with a healthy concept of their own worth as persons and with the power to make decisions that would be instrumental for shaping their own lives.

I was extremely hopeful from this viewpoint about the success with which a full scale museum about education might meet. Thus I looked carefully at the amount of time individuals spent looking at the exhibits and the kinds of questions asked. For some viewers the exhibits offered new information. This was especially true for the exhibit on the open classroom. Frequently visitors lingered to ask more specific questions about the open classroom. For others, the exhibits sometimes reinforced their own practices or represented an idea they had already thought about and discarded. In this case they did not usually pursue any discussion.

The necessarily limited scope of this prototype "museum" was a drawback as far as serving the needs of the individuals who chose to view the exhibits. The participants came with questions and with some degree of curiosity. Some I spoke with indicated an interest in viewing other expanded exhibits. It seems feasible that by expanding and refining exhibits on ideas about teaching and learning, the seekers of information on these subjects would be more satisfied.

The next phase of this project seems to lie in developing
other like exhibits in a more permanent and durable form. Such
exhibits could easily lend themselves to a travelling arrangement
such as a mobile unit that could travel from place to place,
perhaps as an adjunct of Regional Centers such as we have in
Iowa. Some museums already have such travelling units and use
them for particular displays, such as the one on Indian culture
at the University of Illinois in Carbondale.

FINAL REPORT: PILOT STUDY #9

Commercial or PBS Television Experiment

Project Coordinator: Lee Thayer

Our position on how best the objectives of this Study (see Appendix A) might best be realized has changed over time as we got more deeply involved in researching the backgrounds for it and assessing the various alternative modes of implementation. However, we feel it would serve no presently-useful purpose to describe those changes and how they came about. Rather, it would seem to us most useful to describe our present conclusions about how the objectives of the Study might best be achieved.

As explained in an earlier Progress Report #3 (30 April 1972), this Study was not carried through to the experimental stage. But it remained very much a part of our central deliberations, and in the spirit of our major study conclusions.

Consistent with our major Policy Recommendations, we believe that an initial step for the OE in redirecting its focus toward education rather than schooling could most efficaciously be that of developing a film documentary (or documentaries), to be entitled "Man and Education." The objective of this documentary (or documentary series) would be dramatically to portray the relationship between education and society, from a number of perspectives—e.g., social organization, consciousness, social

control, social development, the humanities, literacy, mental
health, the quality of human life, etc., etc.--in order to show that
education is central to all human societies, past and present.
and to show the different ways in which educational objectives
have been stated and means of education invented, throughout
history and across different societies and cultures. We believe
that this is a necessary first step toward putting our own (U.S.)
problems and concerns in their proper perspective. From that
point, and on the basis of the understandings achieved in this
documentary, a great many satellite projects could be developed
to capitalize on this start--videotapes, audio cassettes, print
materials, instructional packages, news letters for parents, pro-
grams for children, etc. It seems to us that this foundation has
been missing, and that it could contribute significantly to many
other NCEC and OE programs and efforts.

It is our studied conclusion that such a documentary
(or documentary series) could go far toward establishing a
foundation and a framework for implementing the sorts of efforts
implied in our major Policy Recommendations. To this end, we
recommend further analysis of the possibilities of this effort,
and the development of a specific proposal for its realization.

APPENDIX A

Pilot Study #9

Commercial or PBS Television Experiment*

This is the only pilot study which cannot at this time be
fully described. In general, however, it concerns the design
rationale for a film or video tape series for NET, commercial,
or cassette television.

The purpose or aim of this exploratory study is consistent
with the conceptual and hypothetical bases underpinning the other
studies described in this document. Specifically, our assessment
of the research literature on knowledge utilization, and our own
work to date, suggests to us the strategic need for redefinition
of educators' roles or functions in contemporary U.S. Because
education in the U.S. is very much a public concern, we believe
that this redefinition can ultimately be effected only in the
popular culture and in the popular media. Educators, in general,
seem to me more sharers than creators of popular (or "public")
opinion. Thus this is the "medium" through which they see them-
selves and their social tasks or functions.

_____

*Source: Interim Report, December 1971, pp. 67-69.

We believe that it would be feasible to design and evaluate a film (video tape) series for mass distribution:

A) which teachers would identify with and view regularly;

B) which would begin to effect a change in self-definition from "teacher" to "learning engineer" or "learning situation designer,"[1] and

C) which would indirectly provide a level of "current awareness" with respect to new ideas, new "knowledge," etc., in education.

While the specific details are not clear at this time, we anticipate that the theme and the manner of presentation would capitalize on the same appeals which inhere in what teachers do read and view--i.e., the comics, popular television, digests of best sellers, "personal" stories (in print or on screen), and so on. The product of our effort will be the detailed design-rationale for such a film (video tape) series, and some very modest test results or certain basic ideas--such as the use of animation vs. live actors, two or three possible plot structures, etc. We intend to seek the professional help we need to develop this design-rationale, mostly available on our own campus.

Notes and References

[1]On this redefinition, cf. L. F. Carter, "Knowledge Production and Utilization in Contemporary Organizations," ED01740, October, 1967; and R.G. Havelock, "Dissemination and Translation Roles in Education and Other Fields: A Comparative Analysis," ED015535, October, 1967.