DOCUMENT RESUME

ED 205 198 IR 009 502

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TITLE Communication Options--The Need for Increased Awareness of These Amongst Policy Developers.
PUB DATE 13 May 81
NOTE 14p.: Paper presented at the Australian and New Zealand Association for the Advancement of Science Congress (51st, Brisbane, Queensland, Australia, May 13, 1981).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Decision Making: Foreign Countries: *Microfiche: *Organizational Communication: Policy: *Teleconferencing
IDENTIFIERS *Australia: *Brainstorming

ABSTRACT

This paper considers how various technologies such as telephone conferencing, computer conferencing, and BOM (Brainstorming on Microfiche) could be used by policy developers. It is argued that many of these technologies are efficient in cost/benefit terms, but are often not being used in organizations because policy developers are not aware of their potential. It is concluded that: (1) the telecommunications authority should establish a unit to facilitate increased awareness of policy developers of communications options: (2) there are large numbers of applications of telephone conferencing which have not been tried in Australia: (3) computer conferencing could be used to link parliamentary committee members into global networks in their respective areas: (4) BOM could be used for the development of grass roots networks and policy development networks where computer conferencing is too expensive an option: and (5) there is a need for further research into the question of how communications techniques could assist with the development of more effective approaches to policy development and implementation in Australia. (Author/LLS)

COMMUNICATION OPTIONS:

THE NEED FOR INCREASED AWARENESS OF THESE AMONGST POLICY DEVELOPERS

by

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COMMUNICATION OPTIONS - THE NEED FOR INCREASED AWARENESS OF THESE AMONGST POLICY DEVELOPERS

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Increased interest is being shown in the development of a science of policy development. Communication is critical to policy development. Input to the policy development process must be communicated. This input may be communicated in various ways, for example:

- in writing;
- verbally;
- through demonstrations; and
- via data bases.

The process of policy development increasingly entails a large amount of communication. In Victoria this was particularly so with the emphasis on participatory approaches to policy development being emphasised in the 1970s. For example, there were large participatory exercises for the development of policy in areas as diverse as:

- education (a large scale participatory project was used in the build up up to the development of the "White paper on strategies and structures for education in Victorian government schools").
- social welfare (a large scale participatory project was used in the build up to the development of a white paper on social welfare which revolutionised the approach to community welfare services in Victoria); and
- youth policy (regular consultations were held with young people in the 1970s. The major exercise involved bringing hundreds of young people together at christmas for the Youth 2000 series which involved young people in considering the future of the state).

Participation is also necessary amongst policy developers and implementers in the policy development process. This results from an increased emphasis on collegial approaches in policy development. In the education scene one notes this both at the school level (resulting in such things as curriculum days in which staff input ideas on what the over-riding goals of the school should be) and at the central level (reflected in increased consultations between Assistant Director Generals of Education and Regional Directors of Education).

Communication is critical to the implementation stage of policy development. Once policy has been formulated it must be effectively communicated if it is to be implemented effectively. There is increased emphasis on using multiple communication approaches in the policy implementation process. This may involve policy developers communicating the new policy in writing, meeting with implementers on a regular basis to discuss the approach they

A paper presented in the Communications section of the 51st ANZAAS Congress, University of Queensland, May 11 to 15, 1981.

have developed, and being available for regular dialogue on an "ad-hoc" basis. It has been found that people increasingly want to participate in the implementation process, rather than be purely directed in it.

WHY SHOULD POLICY DEVELOPERS BE AWARE OF COMMUNICATION OPTIONS?

Time and energy are increasing in cost. Travel is expensive both because it takes time (the major factor) and because it uses scarce resources. In Australia a number of communications options are used in the policy development process on a regular basis - these include:

- written communication;
- communication via the telephone (on a one-to-one basis); and
- face to face meetings (in person).

If policy developers time is to be used efficiently increasingly it will be important for them to consider using other options including:

- telephone "mail" systems;
- computer conferencing;
- confravision;
- BOM (Brainstorming On Microfiche);
- Videotex; and
- telephone conferencing.

There is a need for the telecommuncations authority to develop a booklet outlining how appropriate each medium is for different purposes. A matrix could be used for this. On one axis would be the different mediums. On the other would be types of meetings. The darker the "co-ordinates" are the more appropriate the medium and meeting type specified are for each other.

In the next section of this paper I will consider three techniques which will be unfamiliar to most policy developers in Australia and consider how they could be used.

TELEPHONE CONFERENCING

This section of the paper is an expansion of an article I wrote for Study of Society (Vol. 11, No. 3, November 1980, p. 5 "Using conference telephones").

Telephone conferencing has a number of components which can be integrated or used in an isolated fashion.

Telephone link-ups: Telecom can link-up up to 9 telephones. This means that a group can meet from their homes. Generally the service has been used for interstate link-ups. However, it is possible to link up phones in a metropolitan area. Telephone exchanges arrange the link up for a small fee.

Conference telephones: Confererce telephones (often termed loud speaking telephones) are telephones with a loud speaker and microphone attachment. They can easily be attached to normal telephones. They cost around $350 (for a fairly basic unit). They can be used to "bring" a resource person to a policy development meeting very inexpensively (particularly if the

linkage does not involve a long distance telephone call).

Integrating a telephone link-up with the use of conference telephones: By linking conference telephones and telephone link-ups it is possible to have a meeting involving various groups in convenient locations. Another possibility is to have a link up involving a number of resource people, being communicated with via the conference telephone. People who might otherwise not be able to attend the meeting (perhaps because of sickness) can also be linked in.

WHAT ADVANTAGES DOES TELEPHONE CONFERENCING OFFER THE POLICY DEVELOPER

Within limits, distance is not a problem with conference telephones. For example, anyone in the outer suburbs can ring anywhere in a city for a standard telephone charge. This means that an expert can be brought to a policy development meeting at an outer suburban office of an agency for the cost of a standard telephone charge. One must also consider that this approach may save the expert two hours in travelling time. An expert might be able to allocate half an hour for a meeting, but not two and a half hours (of which only 20% of the time is productive).

The expert could have taped his talk to the group, and saved the travel time. However, there are a number of advantages in the use of conference telephones over the use of tapes. Conference telephones allow for two-way communication. This is critical for both collegial decision making and for participatory policy development. The policy implementers can ask the policy developer questions via the conference telephone. They can also suggest changes and make criticisms in a "real time" setting. This technique can also allow for increasing involvement of policy implementers in the policy development process. If a policy developer has face to face meeting with groups in regional offices/he might be able to meet with three groups in a day. If he or she meets with the the assistance of a conference telephone this number might be closer to nine. Using this approach it would also be possible for policy implementers and service users to interact with groups of policy developers (even if the policy developers are not located at one location). This is made possible through the use of the telephone link-up facility.

It would also be possible to arrange for anonymous meetings between people holding divergent viewpoints about a policy area. This would be particularly useful where top level policy developers are looking for comments about a proposed policy which are completely "open". It is difficult to have open discussions where subordinate/superordinate relations are part of the process.

It is important to realise that conference telephones and telephone link-ups supplement rather than replace face-to-face meetings. The rate of information transmission (when one considers the complete spectrum of communication - audio and non-verbal communication) in a telephone link up is much more restricted in a telephone link up than it is in a face-to-face meeting. Some authors have argued that this may be good in some situations - for example, where the participants have gross physical deformaties or to avoid preconceptions based on racial or class characteristics.

However, it is reasonable to say that the use of conference telephones and telephone link-ups will generally be more appropriate for information transfer rather than conflict resolution (in which non-verbal messages are an important component). Still, with the rising cost of both energy and time I feel that conference telephones will be used more and more in business, education, and community development in the 1980s.

ACTUAL AND POSSIBLE APPLICATIONS IN POLICY DEVELOPMENT OF TELEPHONE CONFERENCING

Telephone conferencing has been used in the United States since the mid-1950s. Its use in Australia has started to expand in the late 1970s. Its major uses have been in distance education and for linking up decision makers in emergency situations (for example, trade union officials in national strikes).

There are a number of ways in which telephone link-ups could be/are being used in policy development:

- In the Victorian Education Department in 1980 the Assistant Director General of Education (Curriculum and Planning), Dr Ray Maddocks began using telephone link-ups to meet with regional directors of education for regular consultations he used to have on a face-to-face basis.
- The executive of the Modern Methods Teaching Assocation in Victoria has used telephone link ups for executive meetings for a number of years. All of the executive live in Melbourne. However, face-to-face meetings would have been very inconvenient as all of the executive members lived relatively long distances from each other, and because regular meetings were needed.
- In early 1981 a commonwealth parliamentary committee used a conference telephone to interview a top level American defence official. It if planned to use the facility more in future. More divergent applications could be developed involving the integration of telephone link-ups and conference telephones. For example, experts in a number of countries with different viewpoints could be linked in simulaneously.
- The Council of Adult Education in Victoria has installed conference telephones in a large number of their country centres to "bring" teachers from Melbourne to the country. These facilities could also be used by policy developers. For example, groups of social welfare workers in a country region could meet at a C.A.E. country centre to discuss a local problem with a Melbourne based expert without the need for the expert to leave Melbourne.
- Increasingly staff are being encouraged to become involved in the development of new programs. For example, school staff are being encouraged to develop transition education programs appropriate to their local area. Telephone link-ups could be arranged between staff working on similar types of programs.
- Professional assocations are increasingly attempting to get "grass root" membership involvement in policy development. Meetings could be arranged between groups of members using telephone link-ups so that the members would not need to leave

their homes. If the meetings were large scale radio could be integrated. A group of experts could be on-line from home. Their comments would be broadcasts. Professionals could either ring in individually, or arrange themselves into small groups which could be linked up during the show. I term this technique BOR (Brainstorming On Radio). The aim of it would be to generate ideas, rather than resolve conflicts.

COMPUTER CONFERENCING AND BOM (Brainstorming On Microfiche)

This section of the paper is based on an article accepted for publication in Educational Technology magazine and is thus:

Policy developers are increasingly recognising the need for international networks of policy developers working in similar areas. This need is becoming increasingly important as:

- Social change increases in pace;
- Normal approaches to communication (for example, journal articles) are being found to be inefficient communication mediums because of the time delay between the generation of an idea and its publication in a journal; and
- It is becoming more and more expensive to "reinvent wheels". An innovative program for Australia may have been tried and evaluated in other countries.

Various approaches have been used for the development of interactive networks. For example, conferences, letter writing, and the exchange of tape recordings. However, new technologies are opening up new possibilities. One approach involves the use of computers and satellites to facilitate the development of global networks. This allows people in a network to send messages to a central computer from anywhere in the world. The messages are indexed within the compouters according to such keys as:

- author;
- topics discussed;
- questions asked;
- questions answered; and
- embargo date.

This approach allows for policy developers to develop global networks which are independant of the approaches generally used. For example, one policy developer in a network could send a message to the central computer on the topic "Education - Structures and Strategies" with a secondary key of "State level". All other members of the network could access the message either by asking for messages written by the author, for messages dealing with education structures OR state level policy development, or by asking for all messages dealing with education structures AND state level policy development.

A message can also be sent to the computer asking a question on a specific topic or of a specific person. People with expertise in the topic area have the question stored for them. Others can peruse the questions asked and also make contributions. Questions asked of a specific person would only be accessable by that person (assuming a CONFIDENTIAL message had been included).

Embargos are used to indicate that a message will not become part of the dialogue unless a condition is confirmed. The condition may require that a specified time elapse, or that others in the network bring up a specific topic. For example, a person might indicate that he or she does not want a message brought into the discussion until, say, the first of the next month. Another might not want a message made part of the dialogue unless anther person in the network brings up the topic of computer simulation in policy development (he or she may have had a bad experience with this area).

A major problem with computer conferencing is that it is still an elite tool - that is, it is expensive, and is used only by people who feel comfortable using computer terminals. These conditions are increasingly not a problem for top level policy developers in Australia. Increasingly they have access to data bases via a terminal on their desk. Cost is also not a problem (particularly, if the use of computer conferencing reduces the need for face-to-face meetings). Because of these factors I would see that there is real potential for top level governmental policy developers to be involved in global networks using computer conferencing. In the United States computer conferencing has been used by top level governmental decision makers in a limited number of agencies since the early 1970s.

In some areas of policy development elite decision makers have not had experience with data base technology (for example, the Office of Youth Affairs has only recently established a Youth Information Working Party) and cost is a major factor for many of these agencies (particularly for agencies in the non-governmental sector - for example, the Australian Council of Social Service). For such agencies I have developed an alternative to computer conferencing which is both inexpensive and does not require sophisticated hardware or software. I term this technique BOM (Brainstorming on Microfiche).

Microfiche is an extremely inexpensive medium. Microfiche readers are available in most libraries in developed countries. Microfiche can be produced by anyone with access to a microfiche bureau. There is a microfiche bureau in each of the Australian state capitals. In Australia, a 100-page master costs around $10. A 400-page master costs around $40. Each copy of a fiche costs around 20 cents (the cost is not affected by the number of pages - up to 400). One sheet of microfiche can contain up to 400 pages of information, and still be read on a standard microfiche reader. A fiche can be mailed anywhere in the world inexpensively because of its light weight.

Microfiche up to now, because of these advantages, has been used for information dissemination, but not for dialogue. BOM is designed to allow for dialogue between groups of less than 100 people, on a regular

basis, inexpensively.

With BOM each person in a network is allocated a notional position on a fiche. This notional position might be, for example, spaces 300 to 304. This would mean that the person could send up to fice pages of information to a central clearinghouse for each round of the exercise. Rounds would be held as often as necessary (say, once a month).

INDEXING

Indexing is the key to BOM. Each person in the network would need to enclose a index for his or her letter. This index would not be microfiched. A master index (containing all the individual indexes) would be included at the front of the fiche.

Assuming the person has been allocated notional positions 300 to 304 on the fiche, and discussed Computer Education on page 1, Telecommunications on page 2, and Technological Change on page 3, his or her subject index would look like this:

SUBJECTS DISCUSSED

COMPUTER EDUCATION	300
TECHNOLOGICAL CHANGE	302
TELECOMMUNICATIONS	301

Another index would be set aside for questions asked. This would be divided into two sections:

(1) questions asked of specific people; and
(2) questions asked about specific subjects.

If he or she asked a question about Educational Technology in Alaska on page 1, a question of Sally Smith on page 2, and a question on Youth Information on page 3, his or her index would look like this:

QUESTIONS ASKED-PEOPLE

SMITH, Sally	301

QUESTIONS ASKED-SUBJECTS

ALASKA/ EDUCATIONAL TECHNOLOGY	300
EDUCATIONAL TECHNOLOGY/ ALASKA	300
YOUTH INFORMATION	302

Another index would be set aside for questions answered. This index would need to indicate which fiche the question was asked on. The question may have been asked ten rounds previously, or two rounds previously. The date of each round could be put at the top of each fiche, along with a sequential number, to facilitate indexing of questions answered.

Let us say he or she is answering a question asked on page 200 from round 10 (December, 1980, asked by John Roberts). The answer is given on page 300 (let us assume that the person answering the question is Andrew Smith - who has been allocated positions 300 to 304).

His index for questions answered would look like this:

QUESTIONS ANSWERED-PEOPLE

ROBERTS, John/ 10/ DECEMBER, 1980/ 200
SMITH, Andrew/ 300

In questions answered-people, the first column indicates the person who asked the question, the second column indicates the number of the round in which it was asked, the third column inidates when it was asked, the fourth the page number on which the question was asked, the fifth the name of the person answering the question, and the sixth the page number on which it was answered.

If the question was asked generally by John Roberts and dealt with the topic of Youth Information Policy (all other factors being the same), the index would look like this:

QUESTIONS ANSWERED-SUBJECTS

YOUTH POLICY/ ROBERTS, John/ 10/ DECEMBER, 1980/ 200
SMITH, Andrew 300

In questions answered-subjects, the first column now indicates the subject which the question was asked about.

This answer would also be indexed in questions answered-people in the following fashion:

QUESTIONS ANSWERED-PEOPLE

ROBERTS, John/ YOUTH POLICY/ 10/ DECEMBER, 1980/ 200
SMITH, Andrew 300

Multiple indexing is necessary so that the answer can be accessed both according to the subject area and questioners name.

MASTER INDEXES

At the front of the fiche, there would be a number of pages allocated for master indexes for all of the above indexes.

There would also be an index of all the people involved in the BOM exercise with their addresses. This would allow people to write to each other on a confidential basis.

The indexes at the front of the fiche would be compilations of the

individual indexes provided by each participant with his or her letter.

For example, one person may have discussed Community Education Policy on page 201 and Health Policy on page 202. Another may have discussed Community Education Policy on page 302 and Health Policy on page 303. Assuming that these were the only two people discussing these topics, this section of the master index would look like:

SUBJECTS DISCUSSED

COMMUNITY EDUCATION POLICY	201, 302
HEALTH POLICY	202, 303

The topics discussed would be listed in alphabetical order to ease the search process for a specific topic.

It is important that people not use different works to describe the same topic. To avoid this, about 50 key terms related to the BOM area of focus would be predefined. If new terms were needed, participants would be encouraged to select these from appropriate thesauri. For example, in the educational policy area the ERIC thesaurus would be used.

The master index could be developed for each round using a word processor. Word processor can be programmed to facilitate the multiple indexing of material. With this facility the master indexes outlined above could be easily produced, and other indexes added efficiently where needed (for example, an index of the names of people answering questions). Word processors can also assist with the sorting of material (for example, sorting names into alphabetic order, or material into date order). They also allow for easy up-dating of documents. For example, if a new person joined the network his or her name and address could easily be inserted into the list of participants without the need to retype the list in order to keep alphabetic order. Word processors are becoming both less expensive and more powerful, and will soon be within the reach of all policy development agencies (if only because to not have one will involve more manpower expenses than having one for all but the most minute agency).

CONCLUSIONS ON THE BOM TECHNIQUE

Because it is so inexpensive, BOM offers a number of advantages over computer conferencing for the development of global networks of policy developers. The use of BOM does not involve high start-up costs, as people use existing library microfiche readers. It does not involve the use of expensive software, as microfiche bureaus are used to produce the masters for each round. Certainly, the participants involved would require a degree of sophistication in order to use microfiche readers, type up and index their own contributions, and access information on sections of the fiche which are of relevance to themselves. However, the level of technological sophistication required to participate in BOM exercises is far less than that required for computer conferencing. Thus, we can say that BOM is a tool which tends to facilitate inclusion of people in a network, and computer conferencing (other things

being equal) tends to be an exclusive tool. I imagine that this will probably change by 1990 as telecommunications costs decrease, and computer literacy and typing become part of the core curriculum in schools.

I would see BOM as having great potential for linking third world policy developers into networks of policy developers from developed countries inexpensively. BOM also has great potential for creating networks amongst widely scattered practitioners who could not afford the telecommunications costs involved in computer conferencing. These "grass roots" networks could be developed by practitioners themselves, as the most sophisticated equipment required for BOM exercises are:

- typewriters (the use of a word processor for the development of master indexes would dramatically improve the efficiency of such exercises, but is not a prerequisite for them);
- access to a microfiche bureau (at least in the "clearinghouse" country); and
- access to microfiche readers (these are becoming less expensive and more portable).

CONCLUSIONS

A number of conclusions follow from the material presented in this paper:

- The telecommunications authority should establish a unit to facilitate increased awareness of policy developers of communications options.

- There are a large number of applications for telephone conferencing which have not been tried in Australia, particularly in the policy development area (less so in the distance education area).

- Computer conferencing could be used to link parliamentary committee members into global networks in their respective areas. The Australian government could take the initiative of developing global networks of parlimentary committees and experts in various countries in such areas as defence, health, education, and housing using computer conferencing.

- BOM could be used for the development of grass roots networks and policy development networks where computer conferencing is too expensive an option. The BOM technique could also be used for the development of networks which are inclusive in nature (thus allowing for both top level policy developers and practitioners to participate).

- There is a need for further research into the question of how communications techniques could assist with the development of more effective approaches to policy development and implementation in Australia.

FURTHER READING

The seminal work on a more scientific approach to policy development is:

Public Policymaking Reexamined
(Chandler Publishing Company, 1968).

The seminal work on computer conferencing is:

The Network Nation Human Communication via Computer
by Starr Roxanne Hiltz and Murray Turoff
(Addison-Wesley Publishing Company, 1978)

A conference of 120 of Australia's future "decision leaders" was sponsored by the Federal Government and a number of foundations and corporations and held at La Trobe University in August 1980. Technological change was one area considered at the conference (a search process was used). I feel that the book resulting from the conference is a useful contribution to discussion of public policy in Australia. It is:

Future Directions 1980 Conference Report
Edited by Michael Henry and Penny Thomson
(Australian Frontier Inc., 1980)

The book is available for $8 from
AUSTRALIAN FRONTIER
422 Brunswick Street
Fitzroy Victoria 3065

People interested in further reading of my own work in the area of telecommunications should consult:

"Using conference telephones"
Study of Society, Vol. 11, No. 3, November 1980, p 5.

"Communication across the curriculum Implementing this approach using conference telephones"
Idiom, Vol. 15, No. 1, Summer 1980, p. 14

"The line to learning"
Quest, No. 28, October 1979, p. 10

I would be happy to provide reprints of [illegible] and a forthcoming article I am having published in Education Letters magazine on the BOM technique.

Some useful contact addresses:

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The Institute for the Future has carried out a large number of studies on telecommunications applications in society.

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Dr Martino has used computer conferencing to develop global networks of futures researchers.

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Dr Turoff is carrying out "cutting edge" research in the area of computer conferencing.

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David Young was a key figure in the development of the Telecom 2000 report (the seminal work on telecommuncations futures for Australia), and is currently an independent consultant in such areas as telecommunications and futures research.