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The use of satellite delivery systems in education in Canada

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Volume 3

Needs survey: second round

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THE USE OF SATELLITE SYSTEMS IN CANADIAN EDUCATION

NEEDS SURVEY: SECOND ROUND

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Michel Robin

John S. Daniel

The implications of the educational experiments conducted on the communications technology satellite

October 1977

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DD 4715383 + 3569201
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For verbation of replies, see pp. 16 et seq. of french version.

1) INTRODUCTION

This survey is part of a larger study aimed at evaluating the educational experiments carried out in Canada on the Communications Technology Satellite (CTS) and suggesting a model for the use of satellite communications in Canadian education. In this context we thought it essential both to investigate costs of operational satellite systems and to ask Canadian educational institutions to tell us whether they see any useful applications of satellites in their own activities.

The first round of the needs survey was conducted in the spring of 1977. A short description of two hypothetical educational networks, a pan-canadian "Canadian Universities Satellite System" (CUSS) and a regional audio network "Provincial Educational Telephone System" (PETS) was sent to all Canadian Universities and provincial departments of education and to some professional associations with a request for comments on the usefulness in education of satellites in general and of these two systems in particular. 44 replies were received. Meanwhile the creation of the two networks had been costed and the results of this economic study, together with the verbatim of the replies, were published in May 1977 [1].

Since the descriptions of the networks used as the basis for the survey were very general and institutions were only given a few weeks to reply it was decided to proceed to a second round. In this case the two reports were sent out to the same institutions and organizations with a request for further comments in the light of this new information. Replies were invited for August 31st 1977 and nineteen had been received by September 15th.

This report analyzes the replies received in the second round and compares them with the results of the first.

2) NATURE AND GEOGRAPHICAL DESTRIBUTION OF RESPONDENTS

The nineteen letters received came from the following provinces. Figures for replies for the first round are given in brackets.

British Columbia	2	(6)
Alberta	1	(4)
Saskatchewan	0	(2)
Manitoba	0	(8)
Ontario	8	(8)
Quebec	3	(8)
New Brunswick	0	(1)
Nova Scotia	1	(4)
Prince Edward Island	0	(1)
Newfoundland	2	(2)

The types of institution or organization were as follows:

Provincial department of education	5	(6)
Universities	11	(32)
Educational TV Authority	1	(4)
Professional Associations	0	(1)
Other	2	(1)

3) FACTORS MENTIONED IN REPLIES

In the tables which follow we have attempted to summarize the key points made by the writers of the replies in the first and second rounds and to class them as favourable or unfavourable respectively. The reader has only to skim through the verbatim of the first round of replies to realise the limits of such a procedure. Much of the subtlety of the replies is

inevitably lost and where a respondent argued the pros and cons of satellites in good academic fashion it is presumptuous to decide whether the overall conclusion is favourable or unfavourable. However, with these caveats the tables do give a useful indication of the frequency with which various points were raised.

TABLE 1 - COMMENTS ON THE CUSS NETWORK

	Number of replies	
	1st round	2nd round
Favourable replies	15	8
Reasons given:		
Academic quality	2	0
Encouragement of research	5	0
Accessibility of universities	0	1
Specific need	1	0
Usefulness in medecine and nursing	0	1
With some reserves:		
Need for further feasibility studies	2	1
Administrative problems	1	0
Technical difficulties	1	1
Economic constraints	1	0
Unfavourable replies	4	9
Reasons given:		
Cost greater than usefulness	2	2
Previous experience doesn't support idea	2	2

	1st round	2nd round
Cost outweighs teaching effectiveness	1	0
Lack of interest	2	0
Other systems do job adequately	2	4
Asymmetry of systems	1	0
Academic problems	2	0
Telecopier system inadequate	1	0
Need does not justify technology	0	5
No special need	0	3
Does not really provide anything new	0	1
Of no relevance to institution	0	1
With comments that:		
Study should be pursued	0	2
Would be interested in results of further studies	4	5

4) COMMENTS ON THE REPLIES

4.1 CUSS network

Table 1 shows that in the first round most institutions expressed a positive interest in satellites. However, it is worth noting that these positive reactions were usually qualified and hedged about with conditions whereas the negative replies were usually firm and categorical. In the second round the overall proportion of negative replies increased and all replies were somewhat firmer, probably because the respondents, having read the cost study and preliminary needs survey, had more information to go on.

The chief doubts expressed about the application of satellites concern cost and educational usefulness. Many respondents feel that the

educational benefits are not commensurate with the costs and the low utilization of Canada's existing satellite system is cited as an indication of the lack of cost effective public applications. Another difficulty is that the institutions who would be interested in using satellites realise that it may not be easy to interest partner institutions in the enterprise. It is significant that medical and nursing education was practically the only case cited as an area where benefit would outweigh costs.

The positive replies contained a greater diversity of comment, often including proposals for modifications which would increase the usefulness of the system. Most respondents realised that the application in education of telecommunications systems in general, and satellites in particular, has scarcely begun and thus encouraged further studies of feasibility and of needs. The question of needs evoked frequent comment. Clearly the educational system as it now is operates without telecommunications systems. Institutions ask to be shown that there are new educational needs which fall within their mandate and which can be satisfied most effectively and cheaply by methods involving telecommunications.

A few institutions which have already made major investments in audio-visual technology see satellite networks as a natural extension of this activity.

4.2 The PETS network

The PETS audio network evoked fewer, but more sharply polarised comments than CUSS. Whilst some respondents claimed that a system equivalent to PETS could be achieved more cheaply using existing facilities and saw

little interest in a non video network, others claimed that the combination of narrow band technology and dense coverage created a more useful system than CUSS. Since education in Canada is organized on a provincial basis it is possible that a provincial system was seen as inherently more useful than a pan-canadian system. Indeed, several respondents told us that the most useful network would be a CUSS type of network concentrated in a particular region or province. We are in the process of costing such a regional video network and it is worth nothing that the Anik B satellite will allow the creation of such a network as a pilot project.

4.3 Comparison of round 1 and round 2

Round 2 produced fewer replies than round one, (19 vs 44), probably for three reasons:

- institutions who had replied in round 1 had nothing further to add,
- round 1 was based on a summary document of a few pages whereas round 2 invited comments on two reports totalling over 100 pages,
- in round 1 respondents were given only one month to reply. The three month period allocated for round 2 no doubt encouraged procrastination, particularly since it corresponded with the summer months.

In general, the replies to round 2 were firmer than for round 1. The proportion of negative replies increased for the CUSS network but decreased for the PETS network. However, it is probably unfair to attach any significance to these trends. Of perhaps more significance is the fact that a smaller proportion of the round 2 respondents commented on PETS at all.

The danger that education would be a victim of a technology in search of an application was mentioned frequently in round 2 replies, and the importance of needs analysis was emphasized. Some respondents had been surprised at the cost of setting up satellite networks. However, even the negative responses contain remarks to the effect that education has not adapted itself to the modern world. New needs and new opportunities will cause changes of which the introduction of telecommunications technology might be a part.

5) CONCLUSION

Replies to both rounds of the needs survey revealed two overriding requirements, greater attention to the educational needs that satellite systems could help to meet and a more thorough analysis of the educational cost/benefit tradeoffs obtainable with telecommunications systems.

Many of those who see a future for satellites in Canadian education suggest it might lie in the creation of networks which combine the video component of CUSS with the regional emphasis of PETS. However, some respondents saw value in each of these networks in their original form.

Most respondents would like studies to bontinue but suggest that more attention be paid to the educational and institutional aspects of the networks rather than simply to the costs of the technical system.

6) FURTHER WORK AND DEVELOPMENTS

6.1 Round 3 of the needs survey

In response to the replies received we are costing a "Regional Interactive Video Educational Network" (RIVEN) and will incorporate the results in a descriptive document which will form the basis for round

3 of our survey. This document, besides summarizing the features of different possible networks, will describe the educational experiments which have been conducted to date on the Hermes satellite in order to give respondents an indication of the types of activity which can be carried out. We intend to send this document, with a request for comments and information on needs, to a much wider range of institutions than we have contacted to date.

6.2 Satellite experiments and pilot projects

Whether satellites are ever used in an operational manner in Canadian education will depend greatly on the results of the applications and constraints discovered by potential users in pre-operational experiments. A first series of experiments, conducted by a number of institutions across the country on the Hermes satellite, is coming to an end, and planning is now underway for pilot projects on the Anik B satellite. Any educational institution which believes that satellite communications could have a rôle in its future should investigate the possibility of involvement in the Anik B project by contacting the Department of Communications of its province or the project manager; Mike Patriarche, Anik B Project, Department of Communications, 17th floor, Journal Building North, 300 Slater St, Ottawa, Ont.

Référence:

Daniel, J.S., "The Use of Satellite Delivery Systems in Education in Canada".
Vol 1 - The costing of two networks
Vol 2 - A preliminary needs survey
Télé-université, Québec 1977.