Just as conventional educational television supplements school classes and home studies in urban areas, tele-education, long-distance instruction *via* satellite or terrestrial telecommunications, helps teach residents living in remote and rural parts of Canada. Tele-education can be one-way (either live or taped) or interactive, where students and teachers are in two-way audio or video contact.

Tele-education was the focus of several Hermes experiments and Anik B pilot projects. Two of these have developed into large-scale ventures that lease satellite time commercially.

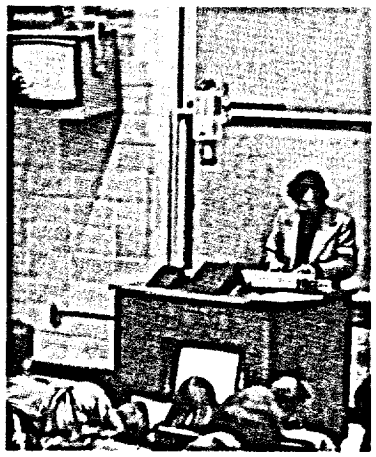
TVOntario (TVO), the broadcast service of the Ontario Educational Communications Authority, was a well-established educational television network providing programming free to some of the province's urban residents well before Hermes went into service. But TVO did not reach any remote communities; the cost of a ground-based communications network was prohibitive. In 1979, however, it used Hermes to extend its program distribution to four schools in remote locations. This was the first long-term trial of direct broadcast by satellite (DBS) to individual buildings equipped with low-cost receiving antennas as small as one metre wide. The experiment was so successful that TVO began regular DBS transmissions in an Anik B pilot project later the same year—another world first. TVO broadcast 94 hours a week of educational programming to 46 rural and remote communities. This service became commercial in September 1982.

TVO found program distribution by satellite so effective that it replaced its entire ground-based network as soon as the first Anik C satellite became available, in January 1983. It is continuing to expand its satellite operations, both to reach more remote communities—it now serves about 70 and reaches more than 90 per cent of Ontario residents—and to provide new services. Trials are under way to enable students at seven high schools in northern Ontario to obtain guidance information from TVO's Telidon data base. (Telidon is the Canadian-developed videotex technology.)

British Columbia is trying a new approach to education that combines the sophisticated technology of satellites with cable and other ground-based networks. The Knowledge Network, an educational authority formed in 1980 by the BC government, operates a system that links three universities, 15 community colleges and six provincial institutes with about 150 communities in the province, many of them rural. It is notable because it gives most of the residents of the mountainous province (which is almost the size of Western Europe) the chance for post-secondary school instruction in their own homes.

More than 85 per cent of BC residents, as well as many people in the Yukon and Alberta—can pick up telecasts seven days a week, 14 hours a day, *via* Anik C. Some are children's programs, but most are adult education courses. Interactive broadcasts give viewers the chance to respond by telephone during transmissions.

The system has been remarkably successful: though there are only 2.8 million residents in British Columbia, more than 8 000 people—who because of distance or disability would have otherwise been unable to go to classes—enrolled with educational institutions during the 1982-83 academic year and 'attended' school at home through the Knowledge Network.



Tele-education in Canada was the focus of several Hermes experiments and Anik B pilot projects. It can be either one-way (either live or taped) or interactive, where students and teachers are in two-way audio or video contact.