

**Distance Education in Health and Environmental Health:
An Option – Now Let's Strengthen its Viability**

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Abstract

The experience of the Training in Health and Environmental Health in the Caribbean Community project has demonstrated that distance education techniques is an effective medium through which participants in more than eleven countries can be brought together to be educated on topics that are significant to both the region and to individual countries. This paper examines the means through which individuals are educated and meaningful communication among them facilitated. The discussion evaluates the experiences of participants in relation to the technology; designing of pre and post activities; selection and preparation of presenters; the setting and ground rules established; and the interactive process utilized for the project.

Introduction

This paper will demonstrate that the effective use of distance education through the University of the West Indies Distance Education Centre (UWIDEC) is a means by which groups of participants representing small Caribbean states can be brought together at one time to be educated on topics which are significant to the region, individual states, individual communities and families. However, it will also show that the extent to which this is viable will depend on its perceived relevance and effectiveness. A great deal of time will be spent describing how Training in Health and Environmental Health (THEH) in the Caribbean Community (CARICOM), which was a Japanese funded project, sought to overcome the obstacles identified. The recommendations made (the majority of which came from the participants themselves), for strengthening the

viability of this technology will also be presented.

At the very outset, the point must be made that there *are* other options open to potential students, such as:

- Traditional face-to-face instruction, in which the student has to relocate to the site of learning for a specified prolonged period of time. This option has implications for travel-related expenses and interruption of productivity on the part of working persons turned students.
- Other distance education options, including correspondence courses – entailing a great deal of self-directed learning; computer online educational courses – a very individualistic approach to learning.

Distance Education – An Overview

Distance education, to paraphrase Professor Barry Willis (associate dean for Outreach, University of Idaho) is the response of the educational system to the challenge of providing increased educational opportunities without increased budgets. Given this definition, it is very clear that distance education is therefore *more* than:

just “one way for an individual with the necessary baseline education to be linked with an institution for higher learning if he or she cannot, for one reason or another, be physically located on the campus”.

just “better than nothing” when it comes to the furthering of one’s education.

This option which is designed to take place when the presenter and participants are separated by physical distance, has the potential to become an effective means of (a) bridging the health and environmental health instructional gap and (b) exposing participants to the most qualified members of the medical and other health-related faculty. It must be seen as having the capacity to provide educational opportunities to an increasing number of non-traditional participants in the health field and those health and environmental health professionals and para-professionals disadvantaged by distance and limited time, some of whom reside in rural areas.

The Potential Impact of Distance Education

Moore and Thompson (1990) and Verduin and Clark (1991) have documented evidence which shows that distance education, when compared to traditional face-to-face instruction, can be as effective once appropriate technology is used and there is student interaction and teacher to student feedback.

It is very clear that the effective use of distance education entails more than bringing participants to sit in a room under the tutelage of a presenter for a period of time. It requires deliberately planning, extensively preparing, and efficiently implementing an educational process which focuses on the needs of the participants and the constraints faced by both participants and presenters.

Embracing This Option in Delivering Health Education: Training in Health and Environmental Health (THEH)

The UWI Centre for Environment and Development (UWICED) was the implementing agency for this Japanese funded project executed by the Pan American Health Organization/World Health Organization (PAHO/WHO), Caribbean Programme Centre (CPC) located in Barbados. The two-year project was intended to function in thirteen Caribbean countries, namely Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago. Of these thirteen countries one (Guyana) did not have a UWI Distance Education Centre site while one other (Belize), had a site but would have had to participate by telephone, which would not have been cost effective. Hence delivery of this project by distance was carried out in the other eleven countries for all but the final session, when Belize was invited (thanks to UWIDEC) to participate on line. On-site training was conducted in both Belize and Guyana.

Aim of THEH

Through teleconferencing, computer assisted learning and audio-visual materials THEH aimed to:

1. Upgrade the skills of 600 practitioners and community workers in environmental health and health promotion;
2. Develop eight training modules on health and environmental health;
3. Train twelve health and environmental health professionals and para-professionals in multimedia and technical production for public education in environmental health and health promotion;
4. Increase public awareness through a programme of public education reaching 2,600, conducted by the persons trained in environment and health.

The effectiveness of this project depended on the success of aim number 1, the foundation of the project.

The Participants

The participants were required to be professionals, para-professionals or community members with the ability to analyse and apply the instructional content taught.

The Intended Output of THEH

At the end of the training, the professionals and para-professionals drawn from the public and private sectors would function as agents of change in programmes of community education. In this capacity they would then work in teams of five or six to extend the training programme, aimed at increasing awareness of the prevention and management of environmental health problems and chronic diseases, to targeted urban and rural poor communities in the region.

Why (Training by) Distance Education?

The decision to use distance education was influenced by UWIDEC's track record in the

delivery of health education among its numerous training programmes conducted over the years. The THEH Project Document (1996) made reference to the following factors which influenced the choice of this medium:

1. CARICOM's aim to expand educational and training opportunities in a cost-effective manner for its people, with a view to strengthening the human resource base of the region.
2. CARICOM's commitment to the development of the distance education facility as "a mechanism increasing access to higher education as well as more broad-based public education programmes".
3. A review of (the then) UWIDITE, undertaken by the Commonwealth of Learning, which emphasized the effectiveness of this mode of teaching.
4. The anticipated expansion and upgrading of UWIDEC's technological capabilities.

Preparing for the Delivery of THEH

Prior to commencing the training, efforts were made to determine the pros and cons of distance education through UWIDEC and utilize the findings to prepare for an effective programme. This information was gleaned through first-hand experience at the project's teleconference planning meetings; the online curriculum development workshop attended by country representatives; observations of the administering of teleconference sessions by UWIDEC personnel; discussions with professionals who had taught via teleconference and health personnel who had participated in training programmes by distance.

The strengths/facilitating factors (pros) identified were:

- Support/collaboration among the participants and among the coordinators;
- Quality of presenters, once of a high standard will make for effective delivery;
- Interaction – participants tend to be enthusiastic about sharing with other Caribbean persons and hearing their views.

The obstacles (cons) identified were:

- Frequent break down of the teleconference system on Jamaican sites although the systems in other countries remain intact and on line;
- Technical problems, including buzzing on the Jamaican end of the line, which proves disruptive;
- Acts of God/disasters which disrupt the lines;
- Undirected discussion on line, hence the need for setting rules prior to the commencement of the teleconference and for the facilitators to regulate the participation of the countries;
- Difficulty in monitoring the activities of presenters not based at Mona;
- The mode of presentation by most presenters is that of straight lectures, which makes for boring presentations and distractions among participants, hence the importance of the inclusion of a session for the master trainers on effective teleconference teaching;
- Duration of presentation – participants tend to get bored and restless if the training sessions are extended beyond two hours.

Suggestions Made by Professionals for Enhancing the Effectiveness of Teleconferencing

- Presentations are enhanced by the inclusion of small group discussions/activities of approximately ten minutes in duration;
- The audiotaping of all sessions is highly recommended – these audiotapes would then be made available to participants of those countries that might have experienced disruption of one sort or another;
- Former participants suggested the inclusion of debates among the countries to maintain participation.

Developing an Effective Distance Education Programme

Strengthening the Viability

It was recognized that UWIDEC had in place a product that was taking root and had the potential to grow and develop much further. To facilitate this growth, which would be manifested in effective programmes, efforts should be made to (a) reinforce the strengths and facilitating factors (the pros) and (b) at least tackle those obstacles (the cons) that can be controlled. To this end efforts were made by THEH to identify these factors, beginning with the pros. The following pros were identified.

Pro no. 1 – support/collaboration among the project team/coordinators. Recognizing that effective distance education programmes do not happen spontaneously but rather through the collaborative efforts of the members of the project team, reinforcing this facilitating factor is prudent. To achieve this the first major goal was to engage the services of an efficient project team comprising:

1. A local project coordinator (LPC) nominated by the Ministry of Health in each participating country. The majority of these persons were health professionals who, for the most part, had been involved in conducting educational activities in their respective countries. These LPCs were very instrumental in identifying the participants, facilitating the training process, maintaining the register of participants' attendance, submitting reports and evaluation and feedback to the coordinating centre.
2. Focal Point Advisory Committee (FPAC) chairmen, the local Ministry of Health's representatives who chaired the country's committee responsible for monitoring the project at the local level. These individuals were either resident tutors at the University Centres, chief medical officers of health or directors of the bureaus of health education.
3. The project's technical committee, which comprised health, environmental health, communication and curriculum specialists having the responsibility for preparing the educational content and curriculum.
4. The presenters, who were medical health and environmental health professionals who conducted the training from Mona and Montego Bay in Jamaica, St. Georges in Grenada, and Port of Spain in Trinidad and Tobago.
5. The support team, comprising secretarial staff and staff members of the University Centres who, although often not visible, were responsible, to a great extent, for the success of this project, seeing to the scheduling of the training activities, registration of participants, and distribution of resource materials.
6. The UWIDEC technicians who maintained the system through which the training was transmitted also trained the LPCs and

advised the presenters and facilitators on the operating and effective use of the system.

7. The project manager who worked closely with the project's technical committee and UWIDEC's technical and support team in planning and coordinating the distance education programme. The responsibilities of the project manager included ensuring that technological resources were in place, the educational materials were in the hands of the participants and the needs of the participants were being met while achieving the aim and objectives of the programme.

Pro no. 2 - the quality of the presenters. To ensure a high standard of presentation, emphasis was placed on training all the key players. The quality presenter must have quality materials to make his or her presentations. For this reason prior to the development of the curriculum the UWIDEC curriculum specialist from Barbados was invited to conduct an intensive two-day workshop for professionals who had been invited to be content writers and presenters. At the end of this training the project's training plan was developed.

Presenters identified were among the best in terms of knowledge of content. However, while all had been participants in distance learning by UWIDEC at one time or another, only one had had previous experience at teaching by distance. Whether or not one has had previous experience at distance teaching it needs to be recognized that each presenter is an individual who brings to the setting his or her own personality; a voice with a particular pitch, tone, accent, sense of urgency or a lack thereof; a unique speaking technique; a manner all his or her own. While focusing on the role of teacher and engaging in developing a working

understanding of the technology through which the lessons are taught he or she also needs to understand the characteristics, needs and expectations of the diverse group of students. This is especially important since presenters are required to employ appropriate teaching styles to meet these needs and expectations having face-to-face contact with very few of the participants. Against this background a site orientation and training session was conducted by a UWIDEC representative at Mona. During this session presenters were familiarized with the medium.

Pro no 3 - provide orientation for FPAC chairmen and LPCs. Meetings were convened by the project manager with this group of individuals at crucial points, namely: prior to (that is, an introductory meeting which served to set the stage and the pace for the delivery), mid- and post-training. This provided the facilitators with an idea of what to expect from a technological point of view and to inform them on the format and other details of this component so they in turn could prepare their participants. More frequent and regular meetings were held with the LPCs.

The cons that were identified are listed below.

Con no. 1 - mode of presentation. To address the criticism of boring presentations and straight lectures, the approaches utilized in this project included interactive exercises, group activities, games and readings made available to the participants at the University Centres. This mix was designed to complement the instructional content, which took the form of course texts.

Con no. 2 - undirected discussions on line. The setting of ground rules that were to be made known to the participants was introduced. Methods of facilitating interactive sessions, and

fostering support and collaboration among participants were discussed and designed as a means of overcoming this obstacle. Each presenter indicated to the participants his or her mode of teaching (for example, most preferred to present for 15 minutes and invite discussion after). A list of countries present was compiled by the project manager for use by the presenter and deliberate efforts made to invite countries to participate by calling upon them in either random or systematic order, ensuring that all countries participated.

Con no. 3 - difficulty in monitoring the activities not based at Mona. Bearing in the mind the importance of sustainability of this project, the project manager along with the UWIDEC technician conducted online training for the LPC and an assistant health educator in Grenada, and the presenter from Montego Bay. This training was designed to give them exposure to the manning of the distance education system and prepare the Grenadian team to facilitate the environmental health and chronic diseases youth forum. This training served as a means of testing and exposing these facilitators to the difficulties that were reported to be encountered often when using the system.

Con no. 4 - frequent "break-down" of the teleconference system. This obstacle, which was out of anyone's control, could only be addressed by the existence of contingency plans that should be designed when the lessons are being developed. The considerations are a number of "what ifs", such as:

- What if the system goes entirely? Would we have to cancel the entire day's proceedings?
- What if participants in a particular country can hear the presenter but cannot be heard by the presenter? Do we conduct the session as if they were not there?

- What if the presenter can hear the participants but cannot be heard by the participants?
- What if there is buzzing on the line?

Delivering THEH

Guided by the above, a total of fifteen training sessions were delivered to 995 participants. The training modules in diabetes were delivered in four two-hour sessions. These were preceded by one to two hours spent on site by the participants, during which time they participated in training exercises contained in the manuals or engaged in discussions on the topics to be presented. The training modules in environmental health and chronic diseases were delivered in eleven two-hour sessions. The presenters spoke for 15 to 20 minutes initially and invited participation by way of questions or comments. The community education sessions were mainly interactive.

The delivery of the modules should have been complemented by the use of multimedia material transmitted to the sites. This did not materialize, as the upgrading of the UWIDEC system was not completed to allow this to take place.

Evaluation/Feedback

The final session in this project was delivered on March 23, 2000. Instant feedback and general evaluation of each session revealed that the medium used for the training had a lot of strong points. The evaluation instrument sought to obtain participants' reactions to the arrangements and the setting, among other things. The setting at the facilities was rated as "very good"; references were made to the physical accommodation which, except for one site, was found to be very comfortable. At the one site where participants expressed

discomfort, this was because they were dissatisfied with the chairs that were provided. The tone set by the staff of the School of Continuing Studies, or the UWIDEC centres in two countries, was rated "very good" to "good". Timing was not an issue for this project. In fact persons complained that the two-hour sessions were too short. We had to be chased off the system by the presenter following our sessions. We often hoped that there would be cancellations of sessions so we could get extended time. This happened very rarely.

Aspects of the arrangements that had to do with transmission got ratings ranging from "good" most times (when there were no technical difficulties experienced) to "fair" at the few times there were. Very rarely, a few countries experienced occasional times of not being heard (Antigua and Sav-La-Mar in Jamaica) and not hearing (Grenada and St. Vincent at times).

Young people who participated in the two youth forums were fascinated at the ideas of (a) receiving information from professionals who were prepared to answer their questions; (b) talking with their peers from other countries about chronic diseases and environmental health issues that affect them; and (c) discussing ways in which they can begin to impact on these health issues at a regional level. It should be noted that this group was equally vocal at expressing its disappointment when contact with Grenada was lost while facilitating the youth forum. A very touching aspect was youth with diabetes sharing with others their experiences and the support system established among them. A challenge to UWIDEC comes through the request of these youth to be accommodated at least once a year for this type of interaction.

One observation worthy of note is the difference in performance between those countries that were on line and the two that

were not (Guyana and Belize). The latter, although not being on line, interacted more with the project as the UWI resident tutor was in touch with the university, being a part of its system, and would receive feedback from his colleagues and be in touch with the project manager when he attended meetings at Mona. Guyana, on the other hand, had no other contact than through telephone calls and the visit made by the project manager. They were therefore out on a limb, so to speak, not benefiting from the camaraderie existing among the facilitators and the participation which was cemented through regular meetings and participating in the training.

Everyone who participated in this training recommended that this activity be continued even on an annual basis, allowing them to discuss strategies and to be given current information on matters related to health and environmental health, as well as to strengthen their resolve to make a contribution to addressing the health and environmental health problems in their respective countries. One striking feature of the networking that was established was the assistance offered by “stronger” countries to the “weaker” ones. In one session Jamaica and Barbados, whose activities were more advanced, were very helpful to the other states, offering them suggestions that were readily accepted.

The fact that Belize was able to participate in the final presentation helped to boost the morale of that team and its participants. Hence the recommendation that, in future, ways be found to have them participate on line more frequently.

Delivering health education by distance is highly recommended for the following reasons:

Its affordability to the region, the individual governments of the small states and the individual participant who can attend on a part-time or full-time basis at minimal man-hours lost to his or her organization of employ.

Its cultural soundness. The experiences and needs of the state in which the participants reside can be brought to bear on assignments done in country and will more likely reflect what is culturally sound and feasible than those done on a campus “away from home”.

It provides a rich experience for the participants. An example of this was the outcome of a community health education session in which factors impacting on the management and control of diabetes in the region were examined. This sharing experience had very interesting results. Among them were the feeling expressed by participants when they learnt that as a region we tend to express the same beliefs and display the same attitudes and practices, with shades of variations; the joy of hearing our colleagues express their own views on common myths; the expressed resolve of both health workers and community members to reverse the ill effects caused by some of these myths and the orchestrated desire, of all, to respect the views of the community members with whom we work and live, while enabling them to adopt positive life styles even as we further explore some of these myths for their validity.

The question we ask ourselves is: have we begun to overcome the obstacles? Hardly, did you say?

The THEH project has proven that the effective use of distance education, in small states, is a medium through which a large number of persons can be brought together at one time to be educated on topics which are significant to both the region and individual states. It is a means to strengthen Caribbean cooperation in

health. Based on the experiences of the project team and the feedback from the participants and facilitators, distance education is indeed an option in addressing the health education/promotion needs of small states. It can be and should be an important means by which individuals are educated and meaningful communication and interaction among them facilitated. Before presenting suggestions for strengthening its viability let me state that in examining participants' reactions to the presentations an observer ascribed the high level of motivation displayed to the fact that health is a topic with which everyone identifies and the modules taught contained information to which the participants had had varying levels of prior exposure. Additionally, unlike a number of other courses offered by distance, the examinations set were to determine the extent to which participants understood what was taught and their further information needs and not for grading purposes.

Strengthening the Viability of Health Education by Distance

All users of distance education, as an educational tool, need to plan for viability guided by the results of the latest of an ongoing assessment of the use of the system. Presenters tend to evaluate the system and the recipients and not themselves. Recipients tend to evaluate the system and the presenters, and the system tends to look at the presenter and the recipient. A user however, needs to look at findings regarding the presenter, the recipient and the system to determine the effectiveness, the short falls, the pros and the cons.

For THEH the networking among states, the rapport established among participants, the respect due and given to each participant, who had something to contribute, and the fostering of a united approach among small states in

tackling common health problems is very important for sustainability which must be initiated by the participants in the states.

UWIDEC has been successful at using the interactive technology of telephone and audio-conferencing along with the printed materials circulated to all participants. Thanks to the efforts of the technicians and the UWI Radio Unit, audiotapes were made available to all countries so those who for one technical reason or another had missed a presentation or a part thereof could have access to the information.

Because the use of visuals and graphics helps students learn, the technological viability of distance education in small states is going to be strengthened when the educator has access to a number of technologies and is able to select those which best suit the needs of the students and the delivery of the content. It means, therefore, that there ought to be a wide range of technological options with which the presenters are familiar and which will complement the telephone and audio-conferencing in reinforcing the messages taught. Examples of these are: slides, instructional pre-recorded videotapes containing class lectures and visually oriented content which can be viewed at the same time by participants and used to stimulate discussion; one-way or two-way video. It is recognized by professionals engaged in health education strategy design that health messages are competing with numerous other messages, some of which are counter to a healthy lifestyle, for the time and interest of the participants/target groups. These competing messages may grab their attention because of the style of the presentation, their attractiveness, and the appeal to the various senses of the target audience. For distance education to be viable it must utilize that approach; it must capture the participants'

attention. When there is technological viability, in a programme such as THEH the feedback required to influence the development of multimedia materials will be more instant, resulting in a more representative final product. More participants can benefit from the training in multimedia by those participants already trained under the supervision of a resource person on line.

Viable Delivery Arrangements

To enhance the viability of distance education in small states presenters must be lively, conscious of the medium being used, creative in making the lesson being taught as graphic as possible. They must aim at holding the attention of the participants, and facilitating understanding. It should be noted that distance learners value instructors who are well prepared and organized. Inherent in the concept of the effective use of distance education is the suggestion that there be in each receiving country a facilitator. The presenter should never be expected to effectively and efficiently play the roles of both presenter and facilitator; it is just not feasible. In THEH the presenters relied on the local project coordinators to act as bridges between themselves and the participants, allowing the presenters to concentrate on teaching. Viability requires an alert facilitator who is committed to the process, an encourager, and a timekeeper having the ability to maintain group activity/spirit, a communicator who presents feedback to the coordinator and the presenter. Viability resides in the quality of the activity. In health, it has been recognized that more is achieved when individuals become active participants rather than being passive recipients. Hence, the principle of interaction as the process was adopted very early in the planning. The ground rules and the setting, both of which play major

roles in motivating participants, should be maintained to facilitate the effective use of the activities designed to reinforce learning.

Marketing this Viable Option

UWIDEC now needs to: (a) explore the market to see what is being offered by other agents; (b) let the small states know what is being offered; (c) find out what the needs are; and (d) plan effective programmes to meet these needs.

Conclusion

Distance education in the small states of the region faces technological challenges such as intermittent buzzing on the line and the occasional breaking down of the system. However, with constant collaboration these obstacles can be overcome if not removed. We as presenters, planners and evaluators should therefore be motivated to take distance education from strength to strength. The participants are depending on UWIDEC and the benefits to the region far outweigh these challenges.

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