

Teleconferencing in Distance Education: IGNOU Experiment

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Teleconferencing is a well established strategy used for communications in the developed countries. In the developing countries it is yet to take off. The experiment conducted by ISRO — IGNOU has generated considerable interest among distance educators. Sahoo's study on the effectiveness of the experiment should give us some idea about the feasibility of using modern technology, in a limited way though, in the developing countries.

Advanced communication technology has strengthened the base of Distance Education all over the world. Multimedia self learning packages of Distance Education (DE) bring in openness in the educational system. Learner autonomy in selection of courses, choice of media, adjustment with studies according to one's own time and pace etc. have been possible due to the contributions of communication technology in educational system. Successful launching of satellite based educational programmes promptly bring educational facilities to the door steps of the learner. No longer TV remains as a means of one way communication. Satellite based communication technology makes it possible to have two way interaction between learners, and tutors/experts in DE and provide opportunities for multiple channel based communication all over the country.

So far Indira Gandhi National Open University (IGNOU) has made successful use of multimedia learning packages with components like: print based materials, audio-video cassettes, educational TV programmes, counselling sessions, study centre activities, extended contact programmes, library studies, assignments, continuous feedbacks on assignments, formative evaluation, project work etc. It makes all possible efforts to incorporate advanced educational technology for making DE system efficient and effective. Especially IGNOU's efforts in incorporating teleconferencing as a component of instructional and management purposes is certainly commendable. It will be worthwhile to mention that teleconferencing can be of different forms viz., Two way audio — two way video interaction. Indian Space Research Organization (ISRO) has collaborated with several educational organizations like UGC, IGNOU, All India Association of Management etc. to experiment with and see the feasibility of application of available 'space technology for education through teleconferencing. There has been successful functioning of teleconferencing programmes in the context of farmers' education programme, country wide class room project of UGC, Indo-US experiment of classroom 2000+ by CIET etc. For the first time

IGNOU took a bold step in integrating teleconferencing with its course based programmes. It included two way audio and one way video teleconferencing as a component of the extended contact programmes of one of its PG Diploma Courses as well as orientation of its Counsellors in the area of Management and Commerce.

TELECONFERENCING EXPERIMENT OF IGNOU

As stated above, a one way video — two way audio teleconferencing experiment was conducted by IGNOU in collaboration with ISRO in October 1993. IGNOU's venture in conducting such experiment has major academic implications. One implication is to explore the feasibility of telecommunication based interaction in Distance Education. The second is to be acquainted with organizational management needed for effective utilization of teleconferencing mode of instruction. The third is to get first hand experience in integrating video teleconferencing as instruction component of DE system. These backgrounds make IGNOU's experiment unique. Unlike other experiments which were conducted in piece meal, IGNOU's experiment was conducted in a reality setup. It used teleconferencing as one of the components of extended contact programmes (ECP) of PG Diploma Course of Higher Education (PG DHE).

The objectives of such experiment as stated by IGNOU were (i) to understand the potential of telecommunication in DE, (ii) to gain insights into the organizational, managerial and technical constraints in operationalizing such systems, (iii) to study cost effectiveness and cost efficiency of the system, and (v) to get the feedback regarding multimedia approach using talkback system. The experiment was conducted from 4th October to 13th October 1993. The experiment addressed to three categories: i) Regional Directors and Assistant Regional Directors, ii) counsellors from the fields of management studies, and iii) the students of the PG Diploma in Higher Education Programme. These programmes were in operation for 10 days from 10 A.M. to 5 P.M. daily with

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suitable intervals. The teleconferencing was carried on with the help of special dish antennae of 10 regional centres connected with the uplink facility TRACT at Delhi. These centres were located in the Regional Centres of IGNOU in Shillong, Bhubaneswar, Hyderabad, Madras, Bangalore, Cochin, Pune, Ahmedabad, Bhopal, and Jaipur.

Each session meant for Diploma in Higher Education included two components. One is presentation by resource persons in Delhi using different formats viz., panel discussion, lecture, dialogue, pre recorded video programme, demonstration etc. Presentations were also made with the help of Scanner. Another part of the session was meant for questions and answer by participants from regional centres and the Headquarters respectively. The participants could ask questions through STD/Satellite telephone lines. Telephone lines were engaged sequentially for 3 centres available in queue. Each centre was given chance to communicate the questions to Delhi for the interaction session. The resource persons responded briefly to the questions relevant to the topics. In this way one way video and two way audio programme of teleconferencing was conducted for training and teaching purpose.

THE PRESENT STUDY

This study is focussed on assessment of teleconferencing experiment on PGDHE programme from two angles:

- i) Effectiveness of teleconferencing as a means of DE; and
- ii) Teleconferencing as one of the components of extended contact programme which included other components like group discussion, practicals, individual projects, group projects, brainstorming, question-answer sessions with experts, etc.

Major emphasis is on the first point, since teleconferencing is a novel component of DE. Teleconferencing programme has been assessed keeping in view the participants' reactions on different aspects viz., content quality, presentation quality, presenters' quality, quality of visuals/audio, talk back quality, and overall effect. A four point reaction scale was used to study the reactions of participants of extended contact programme of PG Diploma in Higher Education. The scale points were: High quality/most appropriate with weightage 'A', Average quality/appropriate to average extent with weightage 'B', Low quality/Appropriate to some extent with weightage 'C' and Poor quality/Not appropriate at all with weightage 'D'. There were 8 participants. They were asked to rate each programme while participating in teleconferencing sessions.

Programs evaluated by participants were:

1. Introduction to ECP and a overview of PGDHE.
2. Relevance of Higher Education.
3. Problems and Needs of learners.
4. Lecture Method with Demonstration.
5. Small Group Interaction.

6. Counselling Services.
7. Course Designing: Context, Background, Objectives and Content.
8. Course Designing: Methods and Media.
9. Course Designing: Course Evaluation.
10. Professionalism.

Participants' rating has been analyzed descriptively. The majority opinion is presented in Table 1. Open ended response was analyzed qualitatively, using content analysis technique. Moreover, the author had maintained a diary to make observations of teleconferencing programmes. His ideas have been presented qualitatively.

ANALYSIS AND INTERPRETATION OF DATA

Table 1 presents the majority opinion programme wise as well as component wise.

Usually a presentation was made by a group of resource persons on each topic. In a programme of one and a half hours duration such presentation covered 35 to 40 minutes. As stated above, different formats of presentation were used viz., panel discussion, demonstration, lecture, pre recorded video films etc. Since ECP was following a continuous schedule every day, the first session's presentation was linked with preceding day's programme, and answering the questions concerning previous day's programmes.

It was being linked with the scheduled programme. Resource person's presentation was followed by a question-answer session of 50 to 55 minutes. In the case of one hour programmes, almost 30 minutes' time was given for question answer following the presentation of around 30 minutes. The presenters' made best efforts to answer questions concerning multiple issues. On the one hand the learners' questions were asked by concerned candidates from study centres. Ofcourse they were moderated by the programme directors in the respective centres.

It was observed that during teleconferencing learners from each regional centre were given a fair chance to ask questions. Each centre was given positive reinforcement to ask questions, inspite of communication technology drawbacks. As a result, it was found that during each session atleast one participant from each centre got chance to interact with the experts. Each centre got at least two chances in every programme for question-answer activity. From each centre the questions were asked by 1-4 participants. Students' expressions were of different types like seeking clarifications, making observations, expression of reactions etc. They focussed on the immediate presentation by resource persons as well as instructional activities/learning experiences of participants. It was also observed that students put counter questions to the resource persons, expressed opinions on the resource persons' views as well as the views of participants from other regional centres. The schedule was prepared in such a way that each day's teleconferencing was followed by related activities in the regional centres.

Table 1 : Reaction of Participants on Quality of Teleconferencing Programmes

S. No.	Parameters	* PROGRAMME COMPONENTS										
		1	2	3	4	5	6	7	8	9	10	11
I. CONTENT QUALITY												
1.	Appropriate to PGDHE course	A	A	A	A	B	A	A	A	A	A	A
2.	Conceptual clarity	A	A	A	B	B	A	A	A	A	A	B
3.	Logical sequence of content	A	B	A	A	B	A	A	A	A	A	A
4.	Appropriate to cognitive levels of participation	B	B	A	B	B	A	A	A	A	A	A
5.	Appropriate to Learners from different parts of the country	B	B	A	B	C	A	A	B	B	B	B
6.	Content coverage course	A	B	A	A	B	B	A	B	B	B	A
II. PRESENTATION QUALITY												
1.	Content appropriate for ETV presentation.	A	A	A	A	B	A	A	A	A	A	A
2.	Appropriate language used.	B	B	A	A	B	A	A	A	B	A	B
3.	Clarity of technical terms	A	B	B	A	B	B	A	B	B	A	B
4.	Clarity of voice	A	B	B	A	B	B	A	B	B	A	B
5.	Speech pattern	A	B	A	A	B	A	A	A	B	A	A
6.	Pronunciation	A	A	B	A	B	A	A	A	A	B	A
7.	Speed of presentation	A	A	A	A	B	A	A	A	B	B	A
8.	Volume	A	A	A	A	B	A	A	A	B	B	A
III. PRESENTERS' QUALITY												
1.	Appealing personality	A	A	A	B	B	A	A	A	A	A	A
2.	Promptness	A	A	B	A	B	A	A	A	A	A	B
3.	Involvement in presentation	A	A	B	B	B	A	A	A	A	A	A
4.	Outlook in dealing with Learner's queries	A	A	B	B	B	A	B	A	A	A	A
IV. QUALITY OF VISUALS/AUDIO												
1.	Appropriate to Learners' level	A	B	A	B	B	B	A	A	A	B	B
2.	Appropriate to content	A	A	A	B	B	B	B	A	A	B	B
3.	Use of alternative/novel visuals	B	A	A	B	B	B	B	A	A	B	B
4.	Visual clarity	A	A	B	B	C	B	B	A	A	B	B
5.	Appropriate synchronization of audio and visuals	B	A	B	B	C	B	B	A	A	B	B
6.	Appropriate Music	B	B	B	C	B	B	A	A	B	B	
V. TALK BACK QUALITY												
1.	Questions raised by Presenters (if any)	B	A	A	B	B	A	A	A	B	B	A
2.	No. of questions asked by viewers	B	B	A	A	B	A	A	A	B	B	A
3.	Quality of questions asked	B	A	A	B	B	A	A	A	B	B	A
4.	Appropriate time given for question answer	A	B	B	B	B	B	A	A	B	B	A
5.	Appropriate reinforcement given to Learners asking questions	A	B	B	B	B	B	B	A	B	B	A
6.	Appropriate answers given to the Questions	B	A	A	B	A	B	B	A	B	B	A
7.	Appropriate technology adopted for talk back	B	A	A	B	B	B	A	A	B	B	A
VI. OVERALL EFFECT												
1.	On yourself (PGDHE) Students	A	A	A	A	B	B	B	A	B	B	A
2.	A common Man Viewer	A	A	A	B	B	B	B	A	B	B	B
3.	Resource Persons Counsellors at Study Centre level	A	B	A	B	B	A	B	A	B	B	A

* Programme Components : Details.

1. Introduction of ECP, 2. Relevance of Higher Education
3. Problems and Needs, 4. Lecture Method, 5. Small Group Interaction
6. Counselling, 7. Course Design: Context, Learning Objective, Content, 8. Methods and Media, 9. Learners' Assessment,
10. Course evaluation, and 11. Professionalism.

All the participants and the resource persons made positive remarks about the role of teleconferencing as one of the components of ECP. Moreover, teleconferencing worked as a successful networking of ECP activities all over the country. Thus the central level co-ordination encouraged decentralized activities taking place in 10 Regional Centres of the IGNOU.

A bird's eye view on the reaction of participants on each programme component would reveal the credibility of teleconferencing. It can be seen from Table 1 that the majority of participants have appreciated/reacted positively to almost all the programmes either to average extent or to a large extent. With regard to content quality it can be witnessed that even though most of the programmes were rated as high, quality, conceptual clarity, logical sequencing, difficulty level of learners from different regions, and content coverage were of average level, especially in programmes like Small Group Interaction, Relevance of Higher Education and Lecture Method.

The quality of presentation of all the programmes were either of average standard or high standard. Certain programmes were of average level e.g., language (programme 1, 2, 5, 9, 11), clarity of technical terms (programmes 2, 3, 5, 6, 8, 9, 11), clarity of voice (programmes 2, 5, 9) and speech pattern (programmes 3, 5, 10).

As a whole presenters' qualities were perceived to be of high standards. In the context of programmes 3, 4 and 5, presenters' qualities were of average standard regarding their appeal, promptness, involvement in presentation and outlook in dealing with learners' queries.

Quality of visuals/audio was of average level on almost all the topics except programmes 8 and 9. Mostly average quality was witnessed with regard to Audio Visual quality's appropriateness to learners' level, to the content of the topic, use of novel visuals, visual clarity, synchronisation of audio and visuals and appropriateness of music.

Talk back quality was of average level in the case of most of the programmes, especially with regard to time given for question answer, reinforcement given to learners, answers given to queries, and technology adopted for talkback.

The impact of most of the programmes were also perceived to be of average level with regard to PGDHE students, a common viewer and resource persons of ECP.

The participants expressed their views openly regarding: scarcity of time for talk back activities, resource persons negligence in answering many questions, non availability of telephone lines, lack of positive reinforcement given to participants asking questions etc. It was also witnessed that response to many questions asked by learners could have been easily traced through print based materials. It was suggested that the resource persons in

Delhi should have been well prepared to face teleconferencing activities. They should have been oriented through simulated situations prior to teleconferencing on each session. It seems except a few resource persons who could face the audience on extempo basis many of them were not up to the mark. They should have raised many issues for sharpening participant's thinking. Most presentations were of directional type. Alternative visuals like graphics, models, real situations, and demonstrations should have been synchronized with presentation with more seriousness.

Question answer activities could have been encouraged in between presentation. It would have been done through role playing/simulated form in Delhi studio, if not between learners from regional centres and resource persons. The resource persons should be trained to make effective presentation through ETV. If possible, they can make use of scripts for effective production of teleconferencing. They should also be acquainted with the skill of answering all relevant questions more effectively within scheduled time. There must be a proper mechanism of recording all the questions asked by the participants from different parts of the country. The best approach followed in the teleconferencing was maintaining continuity in the schedule of ECP. Several objectives were achieved through teleconferencing viz., clarifying doubts of participants in their studies, giving direction for different activities during ECP, reviewing the progress of activities during ECP, encouraging interaction between participants and resource persons etc.

As presented above, different formats were used for presentation of content by resource persons, whereas interaction parts of the sessions were solely restricted to oral means. It was suggested that visual effects could have been integrated with responses given by the resource persons. It requires advanced planning for answering anticipated queries alongwith visual effects. Technology support is fundamental to teleconferencing. It was a grand success to utilize available technology for two-way-audio and one-way-video teleconferencing being linked with telephone connections of different regional centres with Delhi. Non availability of telephone connections disrupted the question-answer activities. Students waiting in the queue for asking questions affected normal environment of ECP participants. It was suggested to chalkout proper strategies for participants, effective communication with the resource persons.

It was a successful experiment of teleconferencing in DE situation. Further efforts in this direction will improve DE system in future. The pioneering role of Consortium For Educational Communication, UGC, IGNOU, Central Institute of Educational Technology and ISRO is commendable in integrating teleconferencing technology with classroom based education as well as distance education system in the country.