

Higher Education At A Distance With Teleconferencing: Teachers' Perceptions

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ABSTRACT

Technologies, by themselves, are simply the tools or the implements. It takes a teacher to impart substance, content and meaning to any technology and its use. This paper seeks to examine the perceptions of the teachers using teleconferencing in a distance teaching university. The funding of this study are success depends, not on the technology but on the course design, quality of teaching and support facilities.

INTRODUCTION

As systems meant to bridge space and time between teachers and learners, multi-media approach and utilization of advanced communication technologies is intrinsic to the distance education universities. The trajectory of the Open and Distance Learning (ODL) systems reflects a constant quest for appropriate technologies to improve the quality of distance teaching and to offset the lack of interactive social learning.

From Nipper's (1989) first generation of 'correspondence teaching', to the second generation, that is multi-media teaching, the ODL has now arrived at the third generation technologies (ICT) that are specifically 'interactive' forms, focus on communication and on learning as a social process. The central question facing the ODL currently is as to what extent can the new technologies foster interactivity and act as an agent of change towards more collaborative learning environment.

The element of interactivity and exchange is not intrinsic to any technology. The form and substance imparted to it by the teachers influences its pedagogical use to a large extent. It is important to examine and understand how teachers relate to technology because 'for the teacher, education technologies are not simply the tools rather they are the knowledge, values and practices which constitute the development and use of these tools' (Evans and Nations, 1993). Educational technology is not a set of machines or peripheral processes, but a fundamental aspect of education. Pedagogy and technology are inseparable elements of the education process itself. The proficient use and success of any technology in the teaching – learning process therefore significantly depends on how the teachers who are employing it perceive its use, how

they integrate it with their teaching and how they relate to its other dimensions. There is no doubt that telecommunication technologies facilitate interactions eventually between the teacher and the students, and between students themselves; but the quality of interactions is a result of course design and outlook of the teacher. This paper examines the perceptions of the teachers using teleconferencing at the Indira Gandhi National Open University (IGNOU).

OBJECTIVES

The aims of this study are to:

- explore the teacher's perceptions of the technology especially with regard to the learning objectives, appropriateness, flexibility, interactivity, ease of use, etc. in higher learning situations;
- examine how teachers use this technology in relation to their teaching – learning practices;
- and analyse some 'good' and 'bad practices' that may have been followed during the course of teleconferencing so that these can serve as useful experiences for others in the system to emulate or avoid.

REVIEW OF THE PAST STUDIES

India's experience in the use of ICT in education dates back to 1975-76 when the first Satellite based Instructional Television Experiment (SITE) for training and development was carried out, based on the concept of one way video broadcast. About 40,000 teachers were trained during the two years of SITE. Subsequently the Indian Space Research Organisation (ISRO) initiated the Training and Developmental Communication Channel (TDCC) for interactive training and education. The TDCC using the satellite INSAT 2C, was operationalised in February, 1995 with the studio and uplink facilities for teaching housed at IGNOU. The TDCC is a one-way video and two-way audio conferencing system. Currently, teleconferencing facility is being used amongst other agencies, by the IGNOU and is being offered through Gyan Darshan (2) the dedicated national educational channel, IGNOU is the nodal agency for this.

Since the inception of teleconferencing in India, several studies have been conducted to examine aspects of its effectivity, outreach and pedagogical use, etc.

A number of studies have been carried out to find the usefulness and impact of teleconferencing for training primary and higher education teachers. Phutela, (1998), Parkash and Lal, (1998), Taleem Research Foundation, (1999) and DEP (2002, 2003) evaluated the effectiveness of teacher training through teleconferencing for primary school teachers. The studies revealed that majority of the teachers were positively disposed towards teleconference as a mode of training. The technology demonstrated its potential for training large number of teachers located at different sites and, on the whole, the quality of interaction among the teachers and the learners was reported to be high. In order to increase the effectiveness of the sessions it was found the language, presentation style and pace, use of clear and visible graphs and charts, impacted on the quality of teaching-learning (Parkash and Lal, 1998).

Dash, (1997), conducted a study to assess the reactions of primary school teachers trained by teleconferencing mode. His findings corroborated with others in that the teachers found the experience satisfying. Sahoo, (1994), and Mishra, (1999), conducted studies on different aspects of the Extended Contact Programme (ECP), a compulsory component of the Post Graduated Diploma of IGNOU for higher education teachers. While Sahoo's, (1994), study found the mode effective when used independently as well as in combination with other activities during the ECP (brainstorming, discussions, projects), Mishra's (1999) findings revealed a high degree of quality exchange between the learners and the resource persons, to be improved further by orienting the resource persons and the learners in the use of this technology.

Rao and Khan, (1998) reviewed all the teleconferencing sessions conducted at IGNOU both by governmental and non-governmental agencies and concluded that professional programmes were more suited to teleconference use as the learners in these courses were more motivated and mature. They suggested careful planning and monitoring of the sessions to increase learner utilization of the sessions (cited Chaudhary and Panda, 2003).

The role of the local cable network for teleconference was examined in a study by Chaudhary and Behari (1994) and it was reported that strong learner participation motivated cable operators to offer their network for educational purpose which is normally not the case. Raghubanshi and Mishra (1996) while examining the causes of low learner attendance in teleconferencing sessions suggested tapping different sources to increase individual learner access to the telecast of the sessions.

The above review indicates that the focus of most of the studies has been to assess teleconferencing as a medium for education and training along dimensions such as interactivity, factors influencing effectiveness in teaching-learning, role of teachers/resource persons etc, others have highlighted innovations in teleconference use and suggested ways to improve learner access and participation in the sessions.

Interestingly, there are hardly any studies on the perceptions of the teachers who use the technology. Most studies have analysed the reactions of teachers as learners or commented on their teaching strategy, style or content as one of the inputs impacting the effectiveness of teaching-learning through the mode. The present study focusses on teachers' views, their opinions experiences and account of teleconference as a teaching tool .

METHODOLOGY

The methodology used for the study consisted of the following. In the first round, a group of questions under different headings was established – these headings were generated from the feedback and discussions with the faculty, resource persons/experts for the Extended Contact Programme (ECP), a regular component of the Post Graduate Diploma in Higher Education for teachers and were seen as significant criteria in transacting the technology.

The questions were assigned under relevant criteria and analysed for possible ambiguities and overlap. As a result, in the second stage, five criteria remained alongwith a set of three questions under each criteria.

The questions clubbed with each criterion were designed necessarily to be answered separately in order to bring out the complexity within a single index and examine teachers' perceptions towards each one of them. Below each criterion and its associated questions was a 3 point rating scale. After each set of questions, space was provided to elicit detailed open-ended responses. The idea was to move beyond the numerical grading into descriptive details for additional information from the respondents. The last question with four sub-sets was deliberately left open-ended and focused on the subjective practices of the teachers in visualizing and designing their sessions, prior planning and preparation for the sessions and good/bad practices or experiences that they may have encountered in using the technology. To interpret the open-ended

responses, codes were assigned to responses, and frequency of the codes was tabulated.

A questionnaire was thus developed for collecting information about how teachers perceive teleconference as a pedagogical tool. The questions were designed on the following dimensions: Objectives and outcomes, Appropriateness, Flexibility, Interaction, Ease of Use, Design Principles followed in sessions, Prior Planning, Integration with other modes, Good/Bad practices encountered. A random sample of 55 teachers across different disciplines in IGNOU using teleconferencing was drawn. Out of the 55 selected, only 50 responded. The descriptive analysis technique was used to explore the data. The data was analysed by using simple percentage method. The data drawn from teacher respondents is organized and tabulated as under.

S.No.	Dimensions of 'Objectives and Outcomes'	Satisfactory (3)	Somewhat Satisfactory (2)	Not Satisfactory (1)
1	Ability to meet the learning objectives	12 (24)	15 (30)	23* (46)**
2	Ability to meet the teaching aims	12 (24)	18 (36)	20 (40)

Table 1: Objectives and Outcomes

* indicates the numbers of responses

** indicates the percentage

S.No.	Components of 'Appropriateness'	Appropriate (3)	Somewhat Appropriate (2)	Not Appropriate (1)
1	Allows students to build on their learning experiences	20 (40)	15 (30)	15* (30)**
2	Compatible with the method / approach to teaching	23 (46)	20 (40)	7 (14)
3	Integrates well with other teaching learning materials (print, audio, video)	28 (56)	10 (20)	12 (24)

	(print, audio, video)			
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Table 2: Appropriateness

* indicates the numbers of responses

** indicates the percentage

S.No.	Dimensions of 'Flexibility'	Satisfactory (3)	Somewhat Satisfactory (2)	Not Satisfactory (1)
1	Can be used with a heterogeneous group with different levels and backgrounds	18 (36)	15 (30)	17* (34)**
2	Caters to the individual as well group of learners	18 (36)	20 (40)	12 (24)
3	Allows change in teaching style based on feedback from learners	25 (50)	15 (30)	10 (20)

Table 3: Flexibility

* indicates the numbers of responses

** indicates the percentage

S.No.	Components of 'Interactivity'	Satisfactory (3)	Somewhat Satisfactory (2)	Not Satisfactory (1)
1	Ensures quality interaction with individual learners	17 (34)	17 (34)	16* (32)**
2	Provides feedback to learners about their performance	15 (30)	5 (10)	30 (60)
3	Facilitates a personalized and democratic atmosphere in the sessions	15 (30)	15 (20)	25 (50)

Table 4: Interactivity

* indicates the numbers of responses

** indicates the percentage

S.No.	Components of	Simple	Somewhat	Difficult
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	'Ease of Use'	(3)	Simple (2)	(1)
1	Requires time to understand and feel comfortable with	23 (46)	17 (34)	10* (20)**
2	Overwhelming for learners and teachers	20 (40)	20 (40)	10 (20)
3	Teachers and learners too dependent on others for its use	23 (46)	12 (24)	15 (30)

Table 5: Ease of Use

* indicates the numbers of responses

** indicates the percentage

ANALYSIS AND DISCUSSION

1. Objectives and Outcomes

Majority of the teachers commented that the technology had a potential of meeting the learning objectives and teaching aims but not in the way it was currently being used. 24% of the respondents were satisfied with the ability of the technology to meet the learning objectives and teaching aims. Some of the teachers (12%) expressed that they stated the educational objectives clearly and discussed with the learners before they began learning through teleconferencing in pre- teleconference activities and found this to be a highly effective strategy. The outcomes in using the technology were rated as satisfactory (24%), with some teachers following it up with post session activities. The teachers further hoped that technology will offer more interaction and ensure student participation with proper planning of the sessions, more time for interaction and use of other aids to enhance presentation and make it more interesting and useful for the learners.

2. Appropriateness

40% of the teachers felt that the technology was appropriate in supporting the learners build on their previous learning, if the sessions had been carefully designed with specific inputs. 46% expressed satisfaction in using it as they found it compatible with their method of teaching. Majority of them however felt that lecture method was the only method being used. Some felt that the studio situation inhibited their teaching style and they felt it was more like a 'video programme being produced'. A few others reported that they felt a subtle

coercion, power and control being exercised by their colleagues during the course of team-teaching in the sessions and felt intimidated.

The teachers suggested that innovative methods keeping with advances in their disciplines should be tried with proper planning and research about the specificities of the medium to optimize teaching-learning.

Amongst the group that found the technology not appropriate for the learners (30%) and the teachers (14%) and its inability to integrate with other medium, the reasons cited were limited feedback available from the learners, lack of appropriate content suited to the medium, etc. lack of planning, last minute decisions 'being forced' to conduct sessions etc.

3. Flexibility

Regarding the question of flexibility and the potential of the technology with different learner groups, 36% of the teachers said that the technology could be used with heterogeneous groups with varied backgrounds, 36% of them stated that it catered to the individual learner as well as to groups of learners. 50% of them felt that it was flexible enough to allow them to change their teaching style as per learner feedback, 30% were somewhat satisfied about the possibility to change their teaching because they felt they were addressing 'invisible' learners. Amongst the reasons cited for teachers not finding the technology flexible enough to change their teaching, lack of learner feedback, technical staff not giving free hand to the teachers, lack of positive approach and lack of team spirit encouraging individual teacher participation were reported.

Similarly 40% felt that the technology could somewhat cater to the individual learner as well as groups of learners because there was no way of knowing which learner needed more inputs, which was the one who had 'turned in excellent assignments' and which one was 'the demotivated one' etc. 'Facelessness' and lack of prior contact with the learners was seen as a major cause for 17% not being satisfied with its use for learners with heterogeneous backgrounds.

Majority of the respondents however felt that teleconferencing as a medium can easily be incorporated into the classroom situation and it had the potential to be adapted for use with different levels of students by using a different methodology. The technology does have a wider use than originally intended, in that it can be used to deliver learning for a wide range of learners and in a wide variety of topics, reported the respondents.

4. Interactivity

Interactivity constitutes a significant criteria in tele-conferencing, 34% of the teachers thought that teleconferencing enables quality teacher-learner and learner-learner interaction. Amongst this group were teachers who had structured pre-session, during session and after session activities like brainstorming, individual and group projects, etc. 32%, however, felt that quality interaction was not taking place. Amongst the reasons offered were that most of teachers became 'talking heads' leaving no scope for interaction, serious exchange did not take place, questions related to administrative problems being faced by the learners tended to dominate the session and there were no learners at the other end, etc. A few also felt that teleconference was a platform for 'networking', it had become a 'ritual', a means for 'self-projection' and 'leg-pulling' amongst the teachers.

As regards whether it was possible to provide feedback to the learners, 60% of the teachers commented that it was not possible because there was no focus on individuals, the technology was too 'impersonalised', there was paucity of time for serious discussions, the number at the other ends tended to be too large and in the absence of any training for teachers and the learners to use the technology the sessions became boring. As regards the query whether the technology facilitated a personalized and democratic atmosphere, 25% of the teachers felt that this was not possible because the sessions were 'too formal', with too many 'frills' , dominating colleagues, and more emphasis on form than content inhibited a good atmosphere - building.

Most of the teachers, (especially in programmes where interaction was high like the ECP) however, commented that if the number of learner-groups was kept small and questions regulated by the facilitators at the other end, more meaningful interaction could be expected. Efforts on part of teachers to build rapport with learners, establish eye-contact, friendly and informal style with appropriate, interesting and structured inputs could make the sessions more informal and personalized.

Team and collaborative working with positive approach towards one another as faculty members was also suggested. A few also recommended a two-way video to make the learner visible and increase interaction.

5. Ease of use

46% of the respondents found it simple to use the technology, 40% felt it was not overwhelming for teachers and learners and 30% said that they depended on others for using it. 24% found it somewhat difficult to use it and suggested that teachers should have more control in planning, seating and design of the studio. Amongst those who found it easy to use, it was reported that to begin with, they found it too overwhelming but gradually wearing away of the 'novelty value' put them at ease.

A 'creativity model' for teleconference, imparting relevant skills and communication practice for the teachers was suggested so that they could use it more efficiently. It was also suggested that the sessions be kept short, as it was difficult, boring and tiring to face the camera for too long.

6. (i) Current practices in designing a session

In response to how teachers planned/designed a session, 48% reported designing their sessions with a lecture and power point/transparencies/video clips followed by question-answer / interaction session with learners. 20% said they were not aware of any design principles, 8% said that they followed their 'personalized instincts' or used a 'personalized system' for designing the sessions. 24% did not respond to the question.

Prior preparation for effective teaching-learning

85% of the respondents reported that they prepared the content in advance for the sessions whereas a majority of them admitted not trying varied teaching strategies, majority of them did not sent materials to teachers in advance nor structure any specific activities.

80% of the respondents felt that prior preparation by the teachers and the learners , information to the learners regarding the scheduling of the sessions, advance intimation to the receiving centers, and good condition of the infrastructure were necessary conditions for effective exchange to take place, 8% thought that it was difficult to plan ahead and prepare, on the other hand, 12% even suggested compulsory pre teleconferencing and post teleconferencing session activities for the learners to carry out.

(iii) Integration with other modes (print, audio, video, etc.)

In response to the question whether teleconference should be used as an independent medium or integrated with other modes, majority of the respondents (80%) felt that

teleconferencing should be integrated with other modes like print, audio, video, 10% felt that it should be used as an independent medium whereas the remaining 10% suggested integration for future purposes as they felt that the system was not ready for yet.

Good / bad experiences / Practices

Interestingly the extent and quality of interaction with the learners at the receiving end constituted the 'good experience' whereas the lack of it was seen as the 'bad experience' by all (100%) the respondents. Good experience was further explained as 'being overwhelmed/flooded with calls' (98%) and 'to know there were real, learners and not 'Regional Centre Staff' or 'dummies' at the other end. Bad experience was 'talking to a blank audience' (40%), 'a wall' (30%) and the 'studio cameras'. Not being able to talk/interact after having 'adequately prepared', (10%) and 'really looking forward to hearing from learners' and not being able to do so (10%) was also reported as bad experience. This clearly reflects the desire of the distance teachers for interactivity in real time and space in their teaching-learning practices.

CONCLUSION

- The role of the teacher in setting the learning objectives and aims and sharing them with the learner-group beforehand is of great significance since it facilitates learning and makes the process more meaningful. Options like disseminating suitably structured materials to learners in advance can be tried out.
- Adults are helped to learn when their relevant past experiences are reflected in learning situations, it is therefore important to take these into account while planning/designing sessions and activities for teleconferencing.
- Teaching by teleconferencing can alter a teacher's style of teaching but if used unimaginatively, the change may not be to the advantage of the learners. Less variety of strategy used, too much 'formalism' and lack of team work can inhibit the teacher's ability to teach and make the experience a mere ritual. A mix of traditional and creative educational methods should be incorporated into the sessions to motivate the learners.
- For interactivity, sessions should be structured to allow exchange to take place. In case of small groups, learners can be called upon to contribute in the sessions. A balance between informality and teaching aims should be struck. A collaborative,

team-teaching, positive approach is more likely to encourage a relaxed, friendly atmosphere amongst the teachers and create an ambience for increased learner participation.

- Attendance at the learning ends should be ensured by careful planning and coordination, well disseminated information, and providing access at unexplored but 'popular' dissemination points.
- Teacher should be given autonomy to design and schedule her sessions as per the pedagogical needs and objectives set by her.
- Practice, reflection and action forms a crucial loop for a teacher. In other words, practice and research should sustain each other. Research on the role of teleconferencing in teaching-learning, incorporating its significant dimensions should serve as the food for action for the teacher.

Technologies like the teleconference seek to promote equal and social learning by overcoming the 'divide' and 'alienation' amongst distance learners. Despite the inhibitions and frustrations of the teachers in using this technology, it is seen by them as holding great promise because it is the closest one that comes to a virtual classroom and of being with the learners without actually meeting them. Success, however, depends not on the technology but on course design, quality of teaching, and support facilities.

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