International Review of Research in Open and Distributed Learning

Selecting Research Areas and Research Design Approaches in Distance Education: Process Issues

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Volume 5, numéro 3, novembre 2004

URI : https://id.erudit.org/iderudit/1072565ar
DOI : https://doi.org/10.19173/irrodl.v5i3.203

Aller au sommaire du numéro

Éditeur(s)

Athabasca University Press (AU Press)

ISSN

1492-3831 (numérique)

Découvrir la revue

Citer cette note

Passi, B. & Mishra, S. (2004). Selecting Research Areas and Research Design Approaches in Distance Education: Process Issues. *International Review of Research in Open and Distributed Learning*, *5*(3), 1–11. https://doi.org/10.19173/irrodl.v5i3.203

Résumé de l'article

The purpose of this paper is to study the process used for selecting research areas and methodological approaches in distance education in India. Experts from the field of distance education in India were interviewed at length, with the aim of collecting qualitative data on opinions on process-issues for selecting areas for research, research design, and appropriate methodological approaches in distance education. Data collected from these interviews were subjected to content analysis; triangulation and peer consultation techniques were used for cross-checking and data verification. While the findings and recommendations of this study have limited application in that they can only be used in the specific context outlined in this paper, respondents in this study nonetheless revealed the pressing need for more process-oriented research in examining media and technology, learners and learning, and distance learning evaluation processes. Our research, which yielded interesting empirical findings, also determined that a mixed approach – one that involves both quantitative and qualitative methods – is more appropriate for conducting research in distance education in India. Qualitative evidence from our research also indicates that respondents interviewed felt that emphasis should be placed on interdisciplinary and systemic research, over that of traditional disciplinary research. Research methods such as student self-reporting, extensive and highly targeted interviews, conversation and discourse analysis, were determined to as useful for data collection for this study.

International Review of Research in Open and Distance Learning
Volume 5, Number 3. *ISSN: 1492-3831*

November – 2004

Research Notes

Selecting Research Areas and Research Design Approaches in Distance Education: Process issues

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Abstract

The purpose of this paper is to study the process used for selecting research areas and methodological approaches in distance education in India. Experts from the field of distance education in India were interviewed at length, with the aim of collecting qualitative data on opinions on process-issues for selecting areas for research, research design, and appropriate methodological approaches in distance education. Data collected from these interviews were subjected to content analysis; triangulation and peer consultation techniques were used for cross-checking and data verification. While the findings and recommendations of this study have limited application in that they can only be used in the specific context outlined in this paper, respondents in this study nonetheless revealed the pressing need for more process-oriented research in examining media and technology, learners and learning, and distance learning evaluation processes. Our research, which yielded interesting empirical findings, also determined that a mixed approach – one that involves both quantitative and qualitative methods – is more appropriate for conducting research in distance education in India. Qualitative evidence from our research also indicates that respondents interviewed felt that emphasis should be placed on interdisciplinary and systemic research, over that of traditional disciplinary research. Research methods such as student self-reporting, extensive and highly targeted interviews, conversation and discourse analysis, were determined to as useful for data collection for this study.

Background

Research in distance education is typically carried out by Masters- and PhD-prepared individuals, and by research fellows of distance education institutions and conventional universities. Research leading to formal qualification or a degree is called degree-oriented research (i.e., work that leads the researcher to earn a Masters, PhD, EdD). Project research, on the other hand, does not lead to any formal qualification or degree, but instead adds to the literature, and often forms the basis for

policy formation or the rational for action taken by bodies like universities, private sector companies, or governments.

Literature Review

In a 1996 study, Panda, Satyanarayana, and Sharma identified 152 studies, from which two-thirds (n = 109) are project-oriented and one-third (n = 43) are degree-oriented. Powar (2001), in researching the literature on distance education in India, determined that although numerous degree and project-oriented research studies have been published, most lack both quantitative and qualitative rigor compared with international research standards (Powar, 2001). Sahoo (2001), in his review of the literature conducted in the area of distance teacher education in India, discovered gaps between the needs and priorities of distance education research, and actual attempts made so far in that direction. Sahoo further found that the major emphasis of research on distance education technology in particular, has focused almost exclusively on evaluation of different components of the distance learning system in terms of different criteria; while research studies on other aspects – most particularly process aspects – remain isolated. Kaul (1997), for example, found that most research conducted in India to date tends to focus on descriptive surveys confined to comparisons of enrolment trends and academic achievement. The methodology used for these studies relied mostly on descriptive survey approaches, experimentation for testing the efficacy of various approaches/ models, and qualitative data analysis techniques. Similarly, Sesharatnam (1996) in reviewing research activities in distance education in the Indian province of Andhra Pradesh, found that research efforts have been fragmentary and isolated from any established theoretical perspective. According to Sesharatnam, most studies conducted to date in India have typically focused on issues at the micro-level and were evaluative in nature. Most studies in India are of a descriptive type – highlighting the status and functioning of a component of the system. This approach, however, shows the lack of research on "process-issues" aspects of distance education. It also reveals the dominance of quantitative research, often at the expense of the more qualitative aspects of research.

From the above discussion, it is evident that there are significant problems with the manner in which distance education research is currently being conducted in India. India currently lacks both quantity and quality of research studies examining distance education as a process driven system. India is not alone in this plight, however. When examining distance education research on international level, other nation's research such tends to b' less than sufficient as well. Evans (2000), for example, argues that open universities have many things in their favour, but generally “research” is not one of them. Open universities tend to be perceived as parasitical in the sense that they have historically relied on their host (i.e., “real” universities) to produce the knowledge for their course offerings, and train the “open university” academics who teach then. Conventional universities even often contribute the expertise for course development for open university systems. Evans's argument implies that the process of research in distance education needs to be fundamentally different from that of conventional educational research. To this end, researchers engaged in distance education research are showing signs of increasing attention paid to issues in distance education research, particularly within the framework of appropriate theoretical foundations – a phenomena that is reflected in an increase in theoretical and methodological articles that have been published in recent years (Saba, 2000). Nonetheless, in spite of this advancement, we still need more and better-designed studies on distance education problems and issues. As such, open universities need to take up the issue of research seriously if they wish to be at the forefront of higher education both nationally and internationally, and if they wish to be perceived as legitimate “universities” in their own right (Evans, 2000).

From the foregoing discussion, it is important to understand the "process-issues" for selecting research areas in distance education, and research design and related methodological approaches used to underpin such research. Research on the relationship between what goes on while organizing research, and the product outcomes of research itself, is clearly an important task in formulating a research design. Understanding the nuts and bolts of this relationship can improve the quality of research, and ultimately the whole process of distance education itself.

Research Question

This paper seeks to answer the research question: *What are the process-issues for selecting research areas, research design, and methodological approaches in distance education?*

Process-Issues in Distance Education

Quality lies in its processes. Output is the result of such processes. A process is a sustained phenomenon marked by gradual changes through a series of actions that lead toward a particular result. Good quality inputs coupled with weak processes often do not lead to desirable outcomes. On the other hand, good quality processes coupled with minimum essential inputs often do lead to desirable outcomes. An "issue" is a point of debate or controversy on which the parties take variety of position, ranging from affirmative to negative. By speaking of process-issues, the focus is on how the series of actions are brought about to achieve the desired goal of distance education (Mishra, 2002).

Research Design

This study used a qualitative research design to provide a more comprehensive picture of each aspect of the study. It must be noted, however, that the findings and recommendations of this study have limited application to other contexts, and therefore one cannot generate axioms that are widely applicable to other situations. What this study does yield, however, are interesting insights into suggested areas for further research, specifically those using qualitative designs as a basis for developing insight and gaining understanding into process-issues of distance education.

Sample

The study was conducted on a convenience sample of thirty experts. Experts (i.e., departments heads, professors, readers, senior lecturers, tutors, and directors) knowledgeable on the current trends in distance education formed the sample of our study. This sample was drawn from India's open, conventional, and national level institutions and un'versities: National Council of Educational Research and Training, New Delhi; National institute of Educational Planning and Administration, New Delhi; National Institute of Open Schooling, New Delhi; Indira Gandhi National Open University, New Delhi; Association of Indian Universities, New Delhi; Institute of Applied Manpower Research, New Delhi; Kota Open University, Kota, Rajasthan; M.S. University of Baroda, Vadodara; and Devi Ahilya Vishwavidyalaya, Indore.

Method

A semi-structured interview called: "Process-Issues for Organizing Research in Distance Education: Interview Schedule" was used to collect data. Items comprising the interview schedule

were written and structured to encourage respondents to focus on particular topics on process-issues such as: selecting priority areas of research, issues related to quantitative versus qualitative research, processes of enhancing different types of research, and issues on selecting appropriate methodology of research in distance education. The interview schedules also included open-ended questions, so respondents could elaborate on points of interest.

Data Collection

Data collection took place during semi-structured, face-to-face interviews conducted over a three month period from January 2001 to March 31, 2001. Interviews typically lasted between 45 to 60 minutes, but some lasted as long as 1.5 to 2 hours. The interview process was divided into three stages: pre-interview, interview, and post-interview stage. Respondents were given a copy of the schedule prior to the interview, a time and place was agreed upon, informed consent was obtained prior to conducting the interview, and the results of each interview was transcribed immediately.

Data Analysis

Content analysis was used to analyze the transcribed data of each interview. Each transcription of each interview was read line-by-line, and then divided into meaningful analytical units called "categories." After locating the meaningful categories, the research team coded them. Triangulation was used for cross-checking and verification of data through the use of different information sources. This includes a variety of data sources, the interviews, theoretical models, and research methods. Stronger conclusions can be drawn from comments made by more than one responding expert. Also, conclusions drawn from the interview data could be compared to previous results and related literature. A peer consultation among researchers was used to test and re-test the findings.

Process-Issues in Selecting Research Areas and Methodological Approach

The quality of a research study is dependent upon the nature of the problem undertaken by the researcher, and the research design and supportive methodology selected to explore the problem. At this point, researchers are confronted with various and often conflicting aspects of research. The need to study the underlying research design, method, and process issues in research in distance education is clear. As such, it is interesting to note that the following four issues emerged while interviewing the respondents.

1. Priority areas of research
2. Issue of quantitative versus qualitative research
3. Enhancing different types of research
4. Methodology of research in distance education

Priority Areas of Research

Distance education is changing with an alarming speed, particularly as educational processes become increasingly globalized in terms of physical reach and scope of courses and programs of

study offered. Different viewpoints on distance education are emerging, reflecting the rapidly evolving nature of this increasingly important educational discipline. Workshop participants at the Open University, Hong Kong (OUHK, 1999) determined that research examining both on short-term and/or local problems, as well as long-term research that can be applied to other contexts, is needed to contribute to the growing body of knowledge'on the subject. Moore (1995) advocated not to undertake more media-comparison studies or other meta-analysis. He suggested focusing on the features of particular media to see how they contribute to learner outcomes, what possibilities exist in various settings, whether things are working, and if not, how to fix the situation. The following views, which reinforce the thoughts outlined above, emerged during our interviews of the distance education experts.

1. Around 80 percent of the distance education experts (respondents) felt that emphasis on current research should be placed on media and technology. They emphasized the need for research on the process-related issues of design, development, and effectiveness of materials; use of media by students; organization of radio programmes, TV programmes, tele-conferencing, audio conferencing; and each modality's effectiveness. This group felt research was necessary to examine multi-channel learning systems (i.e., to determine how much of learning can be attributed to print, how much to tutoring, and how much to a combination of two or more media). Comparative studies on different formats from the same media were also determined as necessary areas for further research – for example, comparative studies examining alternative format in print materials to see which format is more effective for learning.

2. Approximately 60 percent of respondents interviewed advocated research conducted on examining learners and learning. They indicated research should be undertaken on adult learners' learning styles; factors that motivates students to learn; research on “how” students learn using print, audio, video materials; problems students confront while working with materials; and students' needs, attitudes, previous knowledge, socio-economic background, characteristics, aspirations, and study habits.

3. More than 50 percent of respondents opined that research should examine evaluation processes. They cited the importance of follow-up studies to examine the influence of specific training programmes, and utilization of training programmes in the classroom. These respondents also felt research should examine student evaluation; feedback on assignments; what exactly students perceive they will achieve upon completion of their studies versus actual employment opportunities available upon successful completion their course(s).

4. Approximately 30 percent of respondents advocated further research on student support services. These respondents felt that research should examine the use of study centres, resource availability versus actual utility at study centres; and the student support processes of counselling, teaching, educational delivery mechanisms, and staff working study centres (i.e., staff members' attitude and involvement in facilitating learning of distance learners).

5. Approximately 25 percent of respondents held the opinion that the basis of research should depend on individual and institutional practices. When viewed from this perspective, allocating priority to research initiatives depends on unique problems encountered by each institution. In sum, each aspect/ dimension has its own unique importance, and that any “importance” placed on research must be based on the “institutional context” in which the given research activity seeks to gain insight and give

meaning to. The basis of prioritizing research rests on the underlying institutional practices it seeks to clarify, explain, or remedy – specifically the objectives of a given institution; the specific problems each institution faces; the kind of innovations and changes a given institution wishes to introduce; the mission of the institution; the academic programmes they seek to offer; the particular media-mix adopted; and the kinds or models of distance education they seek to offer students.

6. Some respondents (approximately, 13 percent) felt that research should focus on distance learning planning and'management. In India, there are currently three types of distance education institutions operating at the level of higher education: 1) national open universities; 2) state open universities; and 3) directorates of distance education of conventional universities. In this system, each institution shares similar and at times overlapping concerns and problems – e.g., establishing higher standards, coordination of activities, staff training, research, course development, to name just a few. Moreover, each institution fully expects to expand its activities by expanding student enrolment. However, due to jurisdictional and bureaucratic overlap, many of these institutions tend to fall short in maintaining quality educational programming for students. As the old saying goes: one can excel at a few things, but one cannot excel at everything. Currently, there is no all-encompassing policy to guide India's educational system at the macro level. As such, when questioned, this group of respondents felt that research on planning and management must have top priority in India at this time. According to these respondents, research studies on organizational models are most important. They also feel that research on student support mechanisms (i.e., home-based support, workplace-based support, institution-based support, study centre-based support, and media-based support) is similarly important.

7. Some of the respondents (13 percent) placed emphasis on research on staff development. These respondents felt that research needs first to identify various staff categories/ groups that require training, followed by research to formulate effective training strategies and mechanisms to address staff development needs.

Issue of Quantitative versus Qualitative Research

Debate on the merit of quantitative research versus qualitative research is ongoing. Qualitative research is often compared and contrasted to quantitative research. According to Panda and colleagues (1996), both qualitative and quantitative approaches have made significant contributions to research, but it is the qualitative type that can dig more deeply into the independent learning of an isolated distant learner. The fact remains, however, that distance education researchers tend to place more importance to quantitative research, a method that typically provides objective descriptions and comparative measures of “classroom activities.” For example, Saba (2000) observed the dominance of quasi-experimental research in distance education, which compares the effectiveness of distance education to classroom instruction, face-to-face education or traditional education.

The authors of this paper perceive that the pendulum is shifting towards the use of qualitative approaches in distance education research, however. As such, more studies are now being conducted that use qualitative designs and supportive methods. Respondents offered the researcher their views (below) on the merit of quantitative versus qualitative research in distance education.

1. Majority of respondents (around two-thirds) advocated a mixed approach in research, one where quantity gives the figure and quality gives the dimension. According to this group, quantitative studies alone cannot give us the "real" or "whole" picture. They felt researchers need to go beyond quantitative studies, and add elements of qualitative methodologies to their research activities. This group felt that a comprehensive mix of both quantitative and qualitative research methods will yield more reliable research outcomes. According to this group, researchers should not collect only hard statistical data; they also need to observe, synthesize, and report on phenomena in its real context, which in turn will lend meaning to the statistical data collected. In sum, qualitative research methods need to be included in tandem with quantitative research methods at the research design level. This approach will yield research outcomes that supp'rt, expand, and thus add credibility and merit to distance education research in its own right.

2. Some respondents (around two-fifths) held the view that the method followed depends on the research problem itself. Both quantitative and qualitative research have their place and importance in research. The research method(s) followed depend upon what kind of research is being considered, and the objectives of the research study. These respondents held the opinion that if the research in question requires qualitative analysis – that method should be used. If it requires quantitative analysis – that method should be used. There is no "prescriptive" solution to research in distance education; instead, these respondents felt the research design should depend on the problems that need answers. According to this perspective, research design and related methods is not an end in itself, but rather a vehicle to arrive at the desired end – the collection of reliable data. In sum, the research design and its evaluative methods should be chosen for is utility to solve a given problem.

3. Few respondents (one-fifth) felt qualitative research should be expanded. These respondents held the opinion that it is not question of balancing between quantitative and qualitative research; it is a question of initiating and development of research processes. This small group of respondents feels that too much emphasis has been placed on quantitative research in the past, and that a quantitative research "bias" continues to this day. This group feels that quantitative research alone cannot examine or explain all the variables/ characteristics that qualitative research designs can reveal.

Enhancing Different Types of Research

Research may focus on disciplinary, interdisciplinary, and systemic areas. Distance education institutions can play a key role in enhancing and expanding upon different types of research examining distance education and its intended (or unintended) outcomes in a systemic setting. It is in this context that Panda and colleagues (1996), and Ferrer (1999), expressed concern about the controversy between various types of research designs and methods. Nonetheless, Panda et al. (1996) setting aside the controversy between the merit of systemic-research versus discipline-based research in distance training institutions, stressed the hidden and highly utilitarian potential of institutionally sponsored research. Such research can bring tremendous value to a given institution, and the discipline of distance education as a whole. Respondents were asked about the process-issues of enhancing different types of research – disciplinary, interdisciplinary, and systemic research. Respondents offered the following views on this topic:

1. Open universities should not necessarily depend on conventional universities for distance education research, because they are engaged in the world of "discipline-based" research. Open universities are in a unique position to examine the systemic nature of the

"modality" in which they operate and "do business." This means that the primary goal of an open university department or faculty – even those comprising many different departments – should be to conduct research. They should first aim to generate knowledge in their own discipline be it medicine, law, engineering, the humanities, or education (to name just a few), then relate such research in a distance education context. In short, researchers should seek to breakout of the disciplinary research box and become involved in more "systemic" research. For example, at the Open University UK, researchers and educators are typically engaged in both disciplinary research and systemic research. When undertaking disciplinary research, academics at the Open University UK make forays into the systemic research aspects of distance education system in which they operate and teach. Clearly, such overla' will improve the teaching-learning practices of the distance education system in which the academic/ researcher is working. It is interesting to note, that many respondents also placed emphasis on interdisciplinary research. According to these respondents, research could evolve to become interdisciplinary in nature and design, especially if two or more researchers from different disciplines join together to research a question or topic. Teamwork is key in this equation because individual academics typically do not have the full toolbox of expertise necessary to master multiple disciplines.

2. One respondent expressed disappointment with the amount and quality of interdisciplinary research done in India. This respondent felt that barriers to interdisciplinary research is present in India, and that open universities should work to break down this barrier, and encourage experts in one discipline to cross over and conduct research in other disciplines. In other words, PhD-prepared and even Masters-prepared individuals from one discipline should be encouraged to conduct research in other discipline.

Methodology of Research in Distance Education

"One of the major challenges of researchers in distance education in the future will be to devise methods for conducting research. This involves method of data collection and data analysis that corresponds to the theoretical complexity of the field" (Saba, 2000). Berge and Mrozowski (2001) in reviewing the literature (n = 890 studies) in distance education over a ten-year period from 1990 to 1999, found that 75 percent of the articles and dissertations used a descriptive methodology. In spite of this finding, qualitative techniques are nonetheless evolving and new research methodologies emerging (e.g., transferred from other disciplines). In the studies researched by Berge and Mrozowski, researchers used a variety of techniques for conducting distance education research, incorporating a variety of investigative techniques and few formal experimental or quasi-experimental designs. For example, student self-reporting, (Fulford and Zhang, 1993; Gunawardena, 1995), extensive interviewing of students (McDonald and Gibson, 1998), conversation and discourse analysis (Chen and Willits 1999; Tsui and Ki, 1996; Saba and Shearer, 1994), or a combination of these methods, were often used to collect the necessary data. Furthermore, these studies typically focused on a smaller group of subjects and took a deeper look at the subjects' verbal and written behaviours. This is an important step in refining research methods specific to distance education, in that they are designed to capture a wider and richer range of data needed to advance the field. With the changing scenario of methodology of research in distance education, respondents engaged in the interviews voiced the following viewpoints on the issue of methodological approaches:

1. There is no substantial difference in the methodologies of conducting research in distance education than in the formal system. It follows the same lock-step process in selection of problem, formulation of a hypothesis and research objectives, formulation of a measurable research question, question formulation, data collection, data testing, data analysis, drawing conclusions, etc. However, in terms of selecting a research sample, the procedure of data collection will automatically change the process. For example, a blank audiocassette could be sent to learners with a questionnaire wherein the learners will be asked to complete the questionnaire by responding the answer in the audiocassette. In sum, this tends to present a different procedure of data collection. Similarly, instead of sending questionnaire via postal mail, the researcher can use the Internet.

2. Since distance education learners are studying in a situation that is typically non-contiguous, application of a qualitative research design and methodologies are likely more appropriate than the application of a quantitative design and methodologies. When research is designed to examine distance students' study habits, learning strategies, learning contexts – and how to improve upon all elements of the system geared to meet the learning needs of distance learners such as course design, development and delivery, and related student support systems – qualitative research methodologies tend to be more appropriate.

3. To enhance inter-disciplinary research, inter-institutional mobility and interactions of researchers, it is necessary to share the uniqueness of specialized perspectives. Researchers can receive feedback from other researchers and vice-versa. Communication technologies are undergoing radical changes for mass data collection and data analysis. Individual researcher can interact with fellow researchers working in other disciplines, any time, any place. To expand the interdisciplinary scope of research, deliberate steps must be taken to integrate researchers and their disciplines – systemic researchers and subject pedagogues alike. The successful convergence of the ideas from related disciplines can enhance the quality of education.

Conclusion

Reviewing the findings of this study, we found that majority of respondents interviewed advocated research on "media and technology" followed by "learners and learning," and on "evaluation process." This finding may be explained by the fact that media and technology carry out major parts of curriculum transaction process. Instead of doing comparative study on "media and technology," respondents tended to advocate focusing on the features of particular media to see how they contribute to learning outcomes. Regarding the issue of quantitative versus qualitative research, the majority of respondents felt that following "mixed approach" was best, and advocated enhancing disciplinary, interdisciplinary, and systemic research. Nevertheless, they also suggested that importance should be placed on interdisciplinary and systemic research. In terms of the methodology of research used in distance education, when questioned, almost all the respondents could not suggest alternate methodologies for research in distance education different from conventional methodologies of research. This finding may stem from respondents' attachment with the conventional system, and as such, they might be looking to conventional universities as the "gold standard" for acceptable norms, credibility, and the role models to which open/ distance education universities should aspire. Indeed, the majority of respondents interviewed had started their career in the formal university system, and most earned their qualifications in the formal system (this is because open/ distance universities are a newer construct). However, very few respondents advocated quantitative research methodologies;

instead, they suggested using tools like student self-reporting, extensive interviewing, conversation and discourse analysis, or a combination of these methods to collect the necessary data.

Communication technologies should also be used for collection and analysis of data. The analysis presented here, while based on a small but arguably highly representative sample of survey of distance education experts working in India, focuses on process-issues for selecting research areas, research design, and methodological approaches used in distance education. The findings and recommendations of this study have limited application; however, significant empirical insights emerged that support research into process-issues. In order to have quantitative data for wider generalization, it is suggested that a quantitative survey research can be undertaken on this topic by taking representative samples from state level institutions, state open universities, distance education researchers, students engaged in distance modes, and students who have already engaged in distance education course(s). ”An in-depth, qualitative study can be undertaken to examine select process-issues of research in distance education. Finally, in order to know the underlying or grounded reality, it is similarly suggested that an in-depth case study should be undertaken.

References

Berge, Z. L., and Mrozowski, S. (2001). Review of Research in Distance Education, 1990 to 1999. *The American Journal of Distance Education, 15*(3), 5 – 19.

Chen, Y. J., and Willits. F. K. (1999). Dimensions of Educational Transactions in a Videoconferencing Learning Environment. *The American Journal of Distance Education, 13*(1), 45 – 59.

Evans, T. (2000). The Strategic Importance of Institutional Research in Open Universities. *Indian Journal of Open Learning, 9*(1), 1 – 12.

Ferrer, F. (1999). Some Thoughts on Trends in Educational Research. Prospects. *IBE-UNESCO, 29*(3), 409 – 422.

Fulford, C. P., and Zhang, S. (1993). Perception of Interaction: The critical predictor in distance education. *The American Journal of Distance Education, 7*(3), 8 – 21.

Gunawardena, C. (1995). Social Presence Theory and Implications for Interaction and Collaborative Learning in Computer Conferencing. *International Journal of Educational Telecommunications, 1*(2-3), 147 – 166.

Kaul, L. (1997). Open and Distance Education. *Fifth Survey of Educational Research 1988-92, Trend Reports.* New Delhi: NCERT.

McDonald, J., and Gibson, C. C. (1998). Interpersonal Dynamics and Group Development in Computer Conferencing. *The American Journal of Distance Education, 12*(1), 7 – 25.

Mishra, S. (2002). *Study of the Pocess-issues for organizing Research and Training in Distance Teacher Education*. PhD Thesis. Utkal University., Bhubaneshwar, India.

Moore, M. G. (1995). The 1995 Distance Education Research Symposium: A Research Agenda. *The American Journal of Distance Education, 9*(2). Editorial.

OUHK (1999): A Report of the OUHK 10th Anniversary Specialized Workshop on Institutional Research in Open and Distance Learning Held on Wednesday, 13 October 1999. Retrieved October 22, 2004 from: http://www.ouhk.edu.hk/cridal/10th.htm

Panda, S. K., Satyanarayana, P., and Sharma, R. C. (1996). *Open and Distance Education Research: Analysis and annotation*. Indian Distance Education Association. Kakatiya University. Warangal.

Powar, K. B. (2001). Research in Indian Universities. In *Supervision of Research in Universities.* New Delhi: Association of Indian Universities.

Saba, F. (2000). Research in Distance Education: A Status Report. *International Review of Research in Open and Distance Learning, 1*(1). Retrieved May 18, 2004 from: http://www.irrodl.org/content/v1.1/farhad.html

Saba, F., and Shearer, R. L. (1994). Verifying Key Theoretical Concepts in a Dynamic Model of Distance Education. *The American Journal of Distance Education. 8*(1), 36 – 59.

Sahoo, P. K. (2001). Perspectives of Research in Distance Education and Professional Development of Teachers. In Jena, S., et al. (Ed.) (2001). *Information and Communication Technology for Professional Development of Primary Education Personnel – International Workshop*. New Delhi: DEP-DPEP, IGNOU.

Sesharatnam, C. (1996). Research on Distance Education in Andhra Pradesh. In M. S. Rao (Ed.) *Synergy Facets of Research in Open Learning.* (p. 124-133). Hyderabad: Dr. B. R. Ambedkar Open University.

Tsui, A. B. M., and Ki, W. W. (1996). An Analysis of Conference Interactions on TeleNex: A computer network for ESL teachers. Educational Technology Research and Development. *The Association for Educational Communications, 44*(4),23 – 44.