CHAPTER 2:
REVIEW OF LITERATURE
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Education is the single most important means for individuals to develop their personal endowment, build capability, and overcome constraints in the process. It enlarges their opportunities and choices for a sustained improvement in well being. It is not only a means to enhance human capital, productivity and the compensation to labour. But, at the same time, education is equally important in terms of enabling the process of acquisition, assimilation and utilization of knowledge (gained through the educational process), and hence improves the quality of life. Acquisition of knowledge and life skills has a great influence on life in its entirety. It also provides the capability to participate effectively in community life. The level of spread of education plays a crucial facilitative role in the demographic, social and political transformation of both developed as well as the developing world.

India has been a major centre for learning for the last several centuries and many popular institutions of learning existed here. Today, the country has the largest system of education in the entire world. However, it is facing a number of challenges though determined to reach every child and provide him/her quality education.

Pulist’s paper (2012) on ‘Student Support Services in Correspondence/Distance Education in India: A Historical Perspective’ explained that the history of distance education in India is not very old. It is a post-independence phenomenon. Immediately after independence, the government realized that the traditional full time education had turned out to be restrictive and not accessible to many. The erstwhile education system had not been able to fulfill the constitutional obligation of the government to democratize and make education accessible to the masses.

The Education Commission (1964-66) pointed out that, "it becomes evident that the present system of education will need radical changes if it is to meet the purpose of modern democratic and socialist societal changes in objectives. Besides, the knowledge explosion and the continuous demand for acquiring new skills and knowledge is placing pressure on the educational system to accommodate more and more..." The non-formal,
correspondence/distance education or open learning was, therefore, thought of as a viable alternative (Anand, 1999).

The Kothari Committee constituted in 1961 by the Department of Education paved the way for institution of correspondence courses in India. Later, on the basis of the recommendations of the committee, University of Delhi was invited by UGC to consider taking up the institution of correspondence courses on a pilot basis. Accordingly, country's first School of Correspondence Courses and Continuing Education was established in University of Delhi in 1962 (Singh, 1992). Encouraged by the reception on part of the people and the success of this pilot project, the Education Commission (1964-66) under the chairmanship of Dr. D. S. Kothari recommended for the expansion of correspondence courses.

The necessary guidelines for establishment of a school of correspondence courses were framed by UGC and circulated to all the Universities. The Punjabi University, Patiala (1968) was the second Indian University to set up a full-fledged directorate of correspondence courses. In fact, it was the first University which was allowed by UGC to run its courses in regional language (Punjabi) along with English. After this, many other Universities also started their directorates of correspondence courses.

In an era of rapid developing educational technologies, the Internet has become a powerful tool to provide learners with an alternative learning environment worldwide. The Internet and distance education have notably affected the ways in which we communicate and learn (Leh, 1999).

Distance education fosters learning and teaching in a variety of ways. One of the many advantages of distance education is that it offers instructors and students a flexible learning setting in terms of time and location. “Distance education is becoming a good way to acquire knowledge, separate from the traditional method of attending the classroom” (Schmidt and Gallegos, 2001).
Learning does not require students to be physically present in the same place as an instructor (Walker, 2005), nor at the same time. Distance education might be used for different purposes such as supported learning, blended learning (combination of face-to-face and online learning), and entirely online learning (Pearson and Trinidad, 2005). Although the Anatolian University has been successfully implementing a variety of open (distance) learning activities, especially through TV broadcasting, distance education research and practices, in general, are relatively new and limited in Turkey. However, the literature suggests that the pressure on the faculty members to teach in some form of distance education will increase (Walker, 2005) in response to the demand for distance education research.

In distance education, learning is developed through sharing ideas and thoughts (Palloff and Pratt, 1999) and personal interactions between participants (Walker and Fraser, 2005). Many factors, such as the infrastructure, quality of support systems, quality of content and assessment, along with peer support networks, may influence the online learning experience (Arbaugh, 2000; Areti, 2006; Bender, Wood, and Vredevooogd, 2004; Roberts et al., 2005; Trinidad and Pearson, 2004). Schmidt and Gallegos (2001) list other factors such as the type of distance delivery method, reasons for enrolling in the course, and learning objectives. Planning and designing a distance education course is a complex task that includes many diverse factors.

Studies regarding the effectiveness of distance education have been conducted since its introduction in the USA. Many of the studies have compared student outcomes in distance courses to those in traditional courses. Majority of the research indicates that student success rates are comparable between traditional classroom settings and distance courses. Various studies have incorporated different methods to compare student outcomes between the course delivery modes such as evaluating grade distributions, examinations, course completion and retention rates, learning styles, critical thinking skills, and others. Opinions differ on the reliability of the results of the studies, and many are pointing to the need for continued study of the effectiveness of distance education.
Issues of access and cost are of great concern to higher education institutions offering distance education courses. Some researchers have indicated that distance education has not broadened access for individuals, but rather has only increased access rates for students already involved in higher education. Differences in income levels, gender, educational background, race, and age have contributed to the “digital divide” in the USA and have also contributed to the problem of ensuring equal access to distance education courses. Cost of distance education courses and infrastructure are also of great importance to higher education institutions. Many studies and institutions have indicated that distance education courses are not cost effective in the short or middle term, and that long-term strategies (including student pricing structures and funds for technology upgrades) must be implemented before financial successes can be realized.

In the 1990s, several different organizations developed guidelines, principles, and/or “best practices” for assuring quality in post-secondary distance education in the USA accrediting agencies, state and regional organizations, faculties at Colleges and Universities, and professional organizations produced statements of principles or guidelines that they deemed essential for assuring quality in distance education. A look at the guidelines formulated by a number of different organizations shows that they differ from one another in emphasis, organization, and level of detail. At the same time, they are quite similar in terms of setting standards for distance education and relating them to the institution’s mission, curriculum and instruction, support for students and faculty, and evaluation and assessment. They are also similar in pointing out that although quality assurance guidelines must address the distinctive features of distance education, many of the recommended guidelines would apply equally well to any learning environment.

Elizabeth et al. (2005) in her study Planning ADE: Implications From The Literature On Student Perspectives studied the benefits and barriers of Asynchronous Distance Education (ADE) form the student’s perspective and found that lower costs, increased flexibility, greater convenience, higher return on investments, and expanded opportunities were the possible benefits of using ADE. The study found that administrative policy and infrastructure issues, quality of technical instructions, inadequate support services, and intrinsic factors were
negatively affecting student performance. The study also revealed that student benefits and barriers were often influenced by logistic, professional, social and family factors.

The research by Jackson, Jones and Rodriguez (2010) on Faculty Actions that result in Student Satisfaction in Online Courses identified that faculty actions positively influenced student satisfaction in the online classroom at the community College level. The results of the study indicated that faculty actions within online courses appeared to have a positive impact on student satisfaction.

Research by Chen and Chen (2007) on Effects of Online Interaction on Adult Students’ Satisfaction and Learning examined perceptions of levels of Satisfaction and Learning occurring in an online programme as relates to Salmon’s Five Step Teaching and Learning Model (2001) of Interaction (Access and Motivation, Online Socialization, Information Exchange, Knowledge Construction, and Development). The study electronically surveyed perceptions of 1279 graduate students of U.S. private higher educational system. The study found that the overall Interaction scores were positive and access and motivation were most predictive of the satisfaction experienced and information exchange and development were most predictive of the learning gains. The study revealed that providing good access and motivation are critical for influencing satisfaction levels.

The study of Murphy (2000) on An Evaluation of a Distance Education Course Design for General Soils evaluated distance education course design with respect to both educational effectiveness and learner satisfaction. The findings support a large body of literature, indicating that distance delivery, regardless of media or technology used is not by itself a contributing variable in student achievement (Russell, 1998). The course design developed for the delivery of this distance course accomplished the primary objective of creating a location-neutral learning experience for the students. Students performed equally well regardless of the location or method. Learners completing the course were satisfied with their overall experience. There was no significant difference in learner satisfaction found between the students connected with the instructor and the distance learners. The literature supports the conclusion that student-
student and student-instructor interaction is positively correlated with learner satisfaction (Fulford and Zhang, 1993; Garrison, 1990; Ritchie and Newby, 1989).

Kelsey’s Case Study of Student Satisfaction and Interaction in a Distance Education Course (2005) utilized a mixed methods approach to examine the assumption that an increase in interaction increases student satisfaction among distance learners. The study found that students were more satisfied as the number and variety of opportunities for interaction increased in the distance education mode.

Dabaj’s Analysis of Communication Barriers to Distance Education: A Review Study (2011) found that different delivery systems such as computer mediated communication systems, video tapes, printed material, cassettes and instructional television may be used as alternative mode for delivering instructions from tutor to students. However, effectiveness of these alternative methods depends upon how interactive the process is and how it overcomes the communication barriers viz. difficulties of dealing with the new media, time constraints and restrictions, and incompetence in skills of using the technology.

Hersh, Junium, Mailhot, and Tidmarsh (2001) worked on Implementation and Evaluation of a Distance Learning Introductory Course in Medical Informatics to evaluate distance learning course in medical informatics and discovered that student satisfaction with teaching and other modalities were very high due to technologies.

The paper of Hermans and Haytko (2009) on Student Satisfaction in Web-enhanced Learning Environments explored the relationship among attitudinal variables contributing to student satisfaction in web-enhanced courses and structural models indicated strong relationships among three variables viz. satisfaction with the instructor, perceived ease of use of the course technology, and satisfaction with the course.

The research paper of Duffy, Gilbert, Kennedy and Kwong (2002) on Comparing distance education and conventional education: observations from a comparative study of post-registration nurses unfolded that students from all three groups were successful in their
studies, but the students studying through distance learning obtained significantly higher end-of-module results than their classroom-based colleagues.

The research work of Evirgen and Cengel (2012) on *Determination of Critical Achievement Factors in Distance Education by using Structural Equation Model: A Case Study of eMBA Programme held in Sakarya University* found that web-based learning is a major part of distance education systems. Web-based distance learning model has a student-centered structure and has enhanced the satisfaction of participants.

Sinclaire’s study on *Student Satisfaction with Online Learning: Lessons from Organizational Behaviour* (2011) explored the relationship between organizational worker motivation and job satisfaction and student satisfaction with online learning. The study found parallel significant relationships between job satisfaction and student satisfaction.

The study paper of Flowers, Moore III, and Flowers (2008) on *African American Students’ Satisfaction with Distance Education Courses* revealed that the more distance education courses African-American students took; more satisfaction will be reported in comparison to the traditional courses.

The paper of Wagner et al. (2005) on *An Evaluation of Student Satisfaction with Distance Learning Courses* found that there is lack of systemic research on online distance learning courses. The study revealed that flexibility is a key issue in student preference for online learning. Sahin (2007) in his study on *Predicting Student Satisfaction in Distance Education and Learning Environments* analyzed the relationship between student satisfaction and various predictor variables viz. instructor support, student interaction and collaboration, personal relevance, authentic learning, active learning, and student autonomy. The results revealed that personal relevance, instructor support, active learning, and authentic learning were significantly and positively related to student satisfaction.

The research work of So and Brush (2007) on *Student Perceptions of Collaborative Learning, Social Presence and Satisfaction in a Blended Learning Environment: Relationships and*
Critical Factors examined the relationships of the students’ perceived levels of collaborative learning, social presence and overall satisfaction in a blended learning environment. The analysis of quantitative data indicated that student perceptions of collaborative learning have statistically positive relationships with perceptions of social presence and satisfaction. This means that students who perceived high levels of collaborative learning tended to be more satisfied with their distance courses than those who perceived low levels of collaborative learning. Similarly, students with high perceptions of collaborative learning perceived high levels of social presence as well. Surprisingly, the relationship between social presence and overall satisfaction was positive but not statistically significant. Interview data revealed that (a) course structure, (b) emotional support, and (c) communication medium were critical factors associated with student perceptions of collaborative learning, social presence, and satisfaction.

Takwale (2003) in his lecture at Shivaji University, Kolhapur explained that through Information Technology, Universities will be able to offer education to all students over the globe without thinking of jurisdiction limits. This will create keen competition for Colleges and Universities, and will be resulting into a threat to the very existence and survival of weaker institutions. Further, providing quality educational services will be the biggest challenge for all the service providers.

Allen, Bourhis, Burrell and Mabry (2002) conducted Meta analysis on ‘Comparing Student Satisfaction with Distance Education to Traditional Classrooms in Higher Education’ and described that there is a slight student preference for a traditional educational format over a distance education format, and little difference in satisfaction levels. A comparison of distance education methods that include direct interactive links with those that do not include interactive links demonstrates no difference in student satisfaction levels. However, student satisfaction levels diminish as additional information is added to the available channel of instruction (e.g., written to audio to video). The findings support those of researchers arguing that distance education does not diminish the level of student satisfaction when compared to traditional face-to-face methods of instruction.
The research of Sahin, and Shelley (2008) on ‘Considering Students’ Perceptions: The Distance Education Student Satisfaction Model’ estimated as a structural equation model and results suggested that as long as students have the skills to use online tools and perceive that distance education is a useful and flexible way of learning, communicating, and sharing, their enjoyment from online instruction will be promoted. Ultimately, this satisfaction may lead to higher levels of engagement, learning, and success in the distance education setting.

Schools at all levels, and institutions of higher education, have invested large budgetary and other resources in online learning tools, especially the Internet (Cheung and Huang, 2005; Rafaeli et al., 2004) since it has become a valuable tool for teaching and learning worldwide and “has brought dramatic changes to education in general and distance learning in particular” (Holsapple and Lee-post, 2006). Now, the Internet is incorporated into educational settings to extend learning activities without depending on traditional classroom space and time (Hagel and Shaw, 2006; Jones et al., 2004; Xie, Debacker, and Ferguson, 2006).

In fact, flexibility of time and place for learning is the most important feature of online instruction. While distance education provides an interactive, reflective, and collaborative learning setting (Maor, 2003), it also challenges researchers and designers of online instruction to develop educational software and find ways to support online learning environments (Ardito et al., 2006; Green, 2006; Yang and Cornelious, 2005) in which students’ needs are fulfilled.

There are many ways in which web tools can be used to support teaching and learning (Zhang, Perris, and Yeung, 2005; Frederickson, Reed, and Clifford, 2005). It is clear that online education has the potential to provide students with high-quality learning experiences. If the course content is prepared by considering students’ value system, along with their social and cultural context, learning is more likely to occur (Bradshaw and Hinton, 2004; Levin and Wadmany, 2006; Muilenburg and Berge, 2005).

The research paper of Horvat, Krsmanovic, and Djuric (2012) on Differences in Students’ Satisfaction with Distance Learning Studies explored satisfaction of students with distance modules, along with the factors affecting differences in their satisfaction. The study found that
there was no significant difference in students’ satisfaction with distance learning module between men and women. Further, it was concluded that there is a difference in satisfaction with distance learning module regarding the students’ perception of opportunity to gain knowledge as the classic students. The paper of Rao (2010) on *Distance Education for the Garment Industry in India* focused on the Distance Education programmes centering on garment sector in the post Multi Fiber Arrangement (MFA) context and found that the supply in no way matches the demand. This provides a compelling situation to look for alternatives.

The research of Muirhead (2005) on *A Distance Education Reader: Insights for Teachers and Students* involved the study of interactivity (communication, participation and feedback) in graduate online classes. The results of the study emphasized on preparing teachers to be effective online instructors who cultivate dynamic dialogues and promote intellectually challenging course work. Mendenhall (2005) article entitled *Challenging the Myths about Distance Learning* explained that generally, there is no significant difference between classroom instruction and distance learning. The article also explained that technology can provide even higher quality instruction in distance education mode. Further, it is depicted that in well designed online learning, there is actually more collaboration between students, teachers and other service providers.

The research paper of Wise, Chang, Duffy, and Valle (2004) on *the Effects of Teacher Social Presence on Student Satisfaction, Engagement, and Learning* experimentally manipulated the social presence cues in the instructor’s messages to students. The context was an online professional development on credit courses with one-to-one mentoring of students. Additionally, student learning intentions and levels of trust were examined as factors that may mitigate the effects of social presence. Results indicated that social presence affects the learner’s interactions and perception of the instructor but has no effect on perceived learning, satisfaction, engagement, or the quality of their final course product. These findings suggest social presence is a correlational rather than a causal variable associated with student learning. Exploratory analyses suggested that trust and learning intentions are potentially important factors impacting student perceptions of the learning environment, and performance in the course, respectively.
The study paper of Cavanaug, Gillan, Kromrey, Hess and Blomeyer (2004) on *The Effects of Distance Education on K-12 Student Outcomes: A Meta-Analysis* revealed that distance education can have the same effect on measures of student academic achievement when compared to traditional instruction. The paper of Ansari (2011) on *Factors associated with students’ satisfaction with their educational experiences, and their module grades: Survey findings from the United Kingdom* explored the factors associated with student satisfaction with their health/social care educational encounter. The study reported that an increase in a group's overall satisfaction was associated with the increase in their academic achievement on the module and vice versa, although the differences in grades were sometimes not significant. The nature of the module, study mode and academic level were significant predictors of student satisfaction.

Research of Levy (2004) on *Comparing Dropouts and Persistence in e-learning Courses* explored two main constructs: (1) academic locus of control; and, (2) students' satisfaction with e-learning. Results showed that students' satisfaction with e-learning is a key indicator in students' decision to dropout from e-learning courses. Moreover, dropout students (non-completers) reported to have significantly lower satisfaction with e-learning than students who successfully completed (completers or persistent students) the same e-learning courses. Additionally, results of the study showed that the academic locus of control appears to have no impact on students' decision to drop from e-learning courses.

The paper of Leong, Ho and Ganne (2002) on *An Empirical Investigation of Student Satisfaction with Web-based Courses* examined and determined the dimensions of student satisfaction with web-based courses to predict student satisfaction levels. This study also examined the relationship between demographic variables, such as gender, year in school, students' prior computer, e-mail, and Internet proficiency, as well as web-based course experience and their satisfaction levels with these courses. The study depicted that the instructors of web-based courses may be able to increase their online students' satisfaction by addressing the appropriate factors underlying student satisfaction.
Many researchers agree that one of the greatest problems with online learning is the lack of empirical research and quantitative studies (McIssac and Gunawardena, 1996; Schlosser and Anderson, 1994; Sherritt and Basom, 1997). Numerous studies in the field of distance education have focused on the comparisons of student performance in distance education courses versus traditional face-to-face courses (DeLoughry, 1988; Souder, 1993). The general conclusion reached by these investigators is that there is "no significant difference" between the performances of students in distance education courses as compared to the traditional face-to-face courses (Russell, 1999).

Bolliger and Wasilik (2009) conducted research on Factors Influencing Faculty Satisfaction with Online Teaching and Learning in Higher Education to measure perceived faculty satisfaction and to confirm factors affecting the satisfaction of the faculty in the context of the online learning environment. Results confirmed that three factors affect satisfaction of faculty in the online environment viz. student-related, instructor-related, and institution-related factors.

Distance education has become a fast-growing delivery method in higher education all over the world. Reasons for offering online courses include improved student access, higher degree completion rates, and the appeal of online courses to non-traditional students. In contrast, institutions indicate barriers to the adoption of online courses include the lack of online student discipline, the lack of faculty acceptance, and high costs associated with online development and delivery (Allen and Seaman, 2007).

Moore and Kearsley (1996) have defined distance learning as a learning environment where ‘students and teachers are separated by distance and sometimes by time’. Rovai, Ponton, and Baker (2008) emphasized that if any element in structured learning is separated by ‘time and/or geography’, then the learning takes place in a distance learning setting. Online education is a process by which students and teachers communicate with one another and interact with course content via Internet-based learning technologies (Curran, 2008).

Willging, and Johnson (2004) conducted a study on Factors That Influence Students’ Decision to Drop Out of Online Courses to examine the reasons of students dropout in an online
programme. The results, based on the dropouts from three cohorts in an online graduate programme, revealed that demographic variables do not predict the likelihood of dropping from a programme. Instead, students’ reasons for dropping out of an online programme are varied and unique to each individual.

Jackson, Jones, and Rodriguez (2010) conducted a study on *Faculty Actions That Result in Student Satisfaction in Online Courses*, which identified the faculty actions that positively influenced student satisfaction in the online classroom at the community College level. The results of the study indicated that faculty actions within online courses appeared to impact student satisfaction. The identification of faculty actions which impact student satisfaction in online courses will greatly assist Colleges and Universities in strengthening their abilities to provide quality online experiences for their students.

Burgess (2006) conducted a study on *Transactional Distance Theory And Student Satisfaction With Web-Based Distance Learning Courses*, which examined the relationships between student satisfaction in online distance learning courses and learner autonomy and dialogue between the instructor and students. The results described that web-based distance learning technologies can provide the opportunity to offer student-centred courses that are designed to meet the needs of the individual learner. The study also found that the success of online distance education may well depend upon the ability of educational leaders to personalize the teaching and learning processes to satisfy and retain distance students.

The research of Gunawardena and McIsaac (2003) on Distance Education explained that the field of distance education has changed dramatically in the past few years. Web-based distance education is becoming an important concept in mainstream education now-a-days. Concepts such as networked learning, connected learning spaces, flexible learning and hybrid learning systems have enlarged the scope and changed the nature of earlier distance education models. Web-based and web-enhanced courses are appearing in traditional programmes that are now racing to join the “anytime, anyplace” educational feeding frenzy. These developments signal a drastic redirection of traditional distance education.
With the rise and proliferation of distance learning systems has come the need to critically examine the strengths and weaknesses of various programmes. The promotion of online courses has resulted in a huge, expensive infrastructure that is described as a technological tapeworm in the guts of higher education (Noble, 1999). The research paper of Kuo et al. (2010) on Interaction, Internet Self-Efficacy, and Self-Regulated Learning as Predictors of Student Satisfaction in Distance Education Courses examined the predictors and non-predictors of student satisfaction. The results indicated learner-instructor interaction and learner-content interaction are significant predictors of student satisfaction when class-level variables are excluded. There is no direct impact of class-level predictors on student satisfaction. Learner-content interaction is the sole significant predictor when class-level predictors are added to the model.

The paper of Shamaa and Hassanein (2011) on Comparison between Non-traditional and Traditional Learning on Students' Achievement and their Satisfaction investigated the students' achievements and satisfaction regarding e-learning and traditional learning. The study indicated that students obtained highly significant satisfaction in the post test of the lecture given by the traditional method than the lecture given by the electronic method. Also, the students were most satisfied with the clarity of concept, followed by the download time and online help feature as well as accessibility of course instruction.

The USA National Center for Education Statistics (NCES, 2002) defines distance education as “education or training courses delivered to remote (off-campus) location(s) via audio, video (live or prerecorded), or computer technologies, including both synchronous and asynchronous instruction”. The study paper by Wright and Dibiase (2005) on Distance Education in Geographic Information Science: Symposium and an Informal Survey highlighted that the above mentioned definition excludes correspondence courses, by which Colleges, Universities and commercial enterprises have delivered educational opportunities via postal services to distant learners in many parts of the world for a century or more. While such a definition may seem too exclusive, it does highlight the technological innovations that, combined with unprecedented economic challenges faced by higher education institutions, have led to rapid growth in distance education over the past decade.
Educators are not of one mind about distance education, of course. Some celebrate the potential to expand access to higher education to lifelong learners not well served by traditional place-bound courses (*Kellogg Commission, 1999*). Others foresee revolutionary impact not only in expanding access to higher education but also in reforming it, by leveraging computers and networks potentially to create a new, more active more student-centred pedagogy (*Benyon et al., 1997*; *Browning and Williams, 1997*). Still, others view distance education as an evidence of a regressive trend towards the automation of higher education and the commercialization of the academy (*Gober, 1998*; *Noble, 1998*). While a recent study has found that equivalent learning activities can be equally effective for both online and face-to-face courses (*Neuhauser, 2002*), there remains the concern that distance education will never be able to fully engage the student in active, inquiry-based learning, or in the process of original, independent research (e.g. *Hanson, 2001*).

A theory of distance education was *Distance Theory: Should It Be Revised To Exclude Student-Student Interactions?* proposed by Moore (1972), which he labeled *The Theory of Transactional Distance* (*Moore, 1980*). The research paper by Thirunarayan and Ferris (2011) on *Transactional* encompasses a survey conducted by the research team to determine University students’ opinions about student-course instructor, student-course content, and student-student interactions. The results of the study indicated that there is a need to revise transactional distance theory to exclude student-student interactions.

The research paper by Raturi, Hogan, and Thaman (2011) on *Learners’ Preference for Instructional Delivery Mode: a Case Study from the University of South Pacific (USP)* focused on learners’ preference for instructional delivery modes and the learners’ satisfaction revealed that e-learning provided a satisfying experience. It indicated that a virtual learning environment is a plausible option in the South Pacific region.

Research paper by Minott and Young (2011) on *Increasing Faculty Usage of Learning Management Systems (LMS) in a Caribbean Islands State University College: Implications for the use of LMS* aimed at ascertaining the extent to which the faculty used the learning management system (LMS), factors affecting the use of the LMS and how to increase the use
of the system. The results revealed that sixty four percent (64%) faculty used the LMS all or sometimes and for a variety of online activities. Attitudinal shift, time for experimenting with the LMS and the need to provide IT support and training were the factors affecting the usage of the LMS by the faculty.

Yueh and Hsu (2008) in their study on how to increase the faculty use of LMS at a Taiwanese University pointed out that it is necessary to examine the needs of the faculty before designing or deciding on a commercially available LMS. This is important because the faculty will utilize the LMS that has features and functions which suit their needs and where the technical complexities are not too difficult. Bongalos et al. (2006) also made the point that faculty should appreciate the fact that LMS complements their time-tested teaching modalities.

The paper by Olden and Philip (2011) on Learning Styles: Implications for Instructional Design explored the applicability and efficacy of learning styles and learning modalities and their effect on learning outcomes. Reliability and validity of instruments used to identify specific learning styles and their psychometric properties were discussed. The study found that majority of research does not support a statistically significant relationship between learning styles and learning outcomes. Since the goal of designing instruction is to attain desired learning outcomes and ultimately improve human performance, the question an instructional designer must address is: Should learning styles be considered as variables while designing the instruction?

A recent article in the Chronicle of Higher Education, entitled Matching Teaching Style to Learning Style May Not Help Students (2009), addressed the afore-mentioned question. The article summarized a comprehensive meta-analysis on the learning styles that revealed that there is no compelling argument to support the predictive validity of measures of learning styles on learning outcomes (Pashler, McDaniel, Rohrer, and Bjork, 2008). A decade earlier, a similar conclusion was reached when Stahl (1999) found that research failed to demonstrate that assessing child’s learning styles and matching them to instructional methods had any effect on their learning.
Nevertheless, there is a strong intuitive appeal to the notion that individual preferences and styles of learning must play a significant part in learning outcomes. Indeed, those who teach and those who learn notice the variability in the speed and manner with which their students acquire new information and ideas, and it seems reasonable that planning the instruction to adapt to individual learning should yield improved learner outcomes (Coffield, Moseley, Hall, and Ecclestone, 2004).

Gaba, Panda and Murthy (2011) conducted a study on Costing of Distance Learning: A Study of the Indian Mega Open University, which analyzed the cost of selected professional programmes offered through distance learning by IGNOU. The researchers discovered that in the educational enterprises, whether public or private supported, cost and costing assume considerable importance. Institutional programmes and student costs depend on a variety of factors, and vary across institutions. In case of programmes offered through distance learning, costing generally depends on (i) the funding policy (Smith and Bramble, 2008; Panda and Gaba, 2008), (ii) the delivery method of distance learning, and (iii) the economic model the institutions adopt for offering their respective programmes.

Rumble (1997) has extensively discussed cost analysis issues in the design of courses, cost of media and materials, student support services, comparison of costs of distance and traditional (conventional) education system, and financing of distance education. In the recent years, the role of information and communication technology has increased the offer of distance learning programmes, particularly those programmes which are being offered through online or e-learning mode. Hence, costs for traditional distance learning courses and online courses have shown significant differences because the cost of instructors for online courses is higher than the cost of course development in distance learning programmes.

Stoltenkamp, Taliep, and Braaf (2011) research on Exponential Growth and Pain: Implementing eLearning at a Higher Education Institution emphasized on the use of technology in higher education, which has realized unprecedented developments across the globe. This has resulted in educational institutions committing much resources and time to enhance their infrastructure in readiness for the increased demand for education, improved
modes of delivery and the unprecedented influx of students seeking skills for the job market. This has resulted in the exponential growth of the application of e-learning within Higher Education Institutions (HEIs). The study notes that lack of sound back-end LMS management processes for an open source home-grown system could lead to a break-down of the e-learning front-end support structure.

The e-learning has surfaced from the recent needs based on the knowledge era; therefore, educational technologies such as discussion forums and chat synchronous tools and knowledge databases that include search keyword facilities have been adjusted to e-learning environments (Wong 2003). As a result, e-learning is frequently publicized as the “magic agent” that will produce changes to schools and HEIs, especially in terms of changing student learning processes; however, there is a need for educators to substantiate the relevance of e-learning and its impact (Woodhead, 2003). Hence, there are examples of emerging strategies such as the Information Technology for Learning in a New Era: Five-year Strategy - 1998/99 to 2002/03, which aims to assist higher education with curriculum transformation; and, support educators to adopt e-learning practices to enhance their teaching-and-learning practices (Woodhead, 2003); and, to consider flexible methodologies of practice which include asynchronous and synchronous tools (Wong, 2003).

Equally important is the fact that these pressures and emerging strategies, as a result of changing higher education, is testimony to the growing design and development of open source software that integrates “innovation, new knowledge, building, application and implementation” (Shoshana, 1998:31). Mapuva’s paper on Promoting Computer-Assisted Instruction in Higher Education Institutions (HEIs) to Enhance Learning: Case study of the University of the Western Cape, South Africa (2011) analyzed the adoption of e-learning among students and staff. The study found that the University has also embarked upon a number of initiatives to enhance assimilation of e-learning among the University population, through the use of e-tools used previously as part-time discourses and employed them for educational purposes. This has resulted in a scramble for more efficient and effective ways of information dissemination, as more tutors, students and trainees, and institutions adopt online
learning where there has risen a sudden need for ICTs and other resources that will examine and inform about this field.

eLearning has become an indispensable and essential component of education as well as a learning and business tool. Globalization, the proliferation of information available on the Internet and the importance of knowledge-based economies have added a whole new dimension to teaching and learning (Holmes and Gardner, 2007).

Volery (2000) concurs that if Universities do not embrace e-learning technology that is readily available, they will be left behind in the pursuit for globalization. Ribiero (2002) argues that if Universities are to maximize the potential of e-learning as a means of delivering higher education, they must be fully aware of the critical success factors concerned with introducing online models of education. In the HEIs, e-learning has helped to transform education and has become associated with, and construed in, a variety of contexts such as distance learning, online learning and networked learning (Wilso, 2001).

Volery (2000) argues that the fast expansion of the Internet and related technological advancements, in conjunction with limited budgets and social demands for improved access to higher education, has produced a substantial incentive for Universities to introduce e-learning courses. Ali and Ahmad’s research on Key Factors for Determining Students’ Satisfaction in Distance Learning Courses: A Study of Allama Iqbal Open University (2011) examined the poor performance of the distance learning students compared to traditional students. Further, relationship between student satisfaction and Instructors' performance, course evaluation, and student-instructor interaction was also examined. The results showed that just like in traditional education, enough interaction takes place between students and instructors in distance learning at AIOU; courses are up to date and well-designed; and, instructors are devoted, motivated, and equipped with the required competencies. Moreover, the faculty at AIOU is delivering distance courses that meet students' needs in terms of student-instructor interaction, instructor performance, and course evaluation.
We need to understand cognitive growth in a larger fundamental and philosophical sense and not just in the instrumental, applied and vocational sense. Complex modern and modernizing societies certainly need a literate population and a large number of managers, engineers and operators. But, they also need a pool of experts seriously and collectively engaged in the task of explaining and exploring the society and making it more intelligible to the rest. Knowledge cannot and should not be reduced only to its applied and vocational aspects. Therefore, we hope that our recommendations will pave the way for the establishment of a developmental model of education that will not only provide quality education for all, but also strive towards the economic, social, cultural, environmental and ethical development of the learner and the society (National Knowledge Commission Working Group report on Open and Distance Education, 2011).

Distance learning is the fastest growing segment of post-secondary education. Almost three million students took at least one online course in fall 2005, an increase of more than 800,000 over the previous year (Allen and Seaman 2006). At the same time, questions persist about the quality of online learning. In one recent study, about two-fifths of senior academic officers at U.S. degree-granting higher education institutions expressed a belief that distance learning is inferior to face-to-face learning (Allen and Seaman 2006). Although some studies show that distance education learners benefit from their experiences to the same degree as campus-based learners (Dutton, Dutton, and Perry 2002; Neuhauser 2002), most of the work demonstrating positive outcomes in distance learning has focused on older students, who are often more motivated and have the self-discipline to manage effectively the unstructured nature of the distance learning environment (Dibiase 2000; Hardy and Boaz 1997).

One important unresolved issue related to the quality of the learning experience is the degree to which online learners are engaged in their educational activities relative to campus-based learners. Engagement is positively related to a host of desired outcomes, including high grades, student satisfaction, and persistence. For this reason, such activities as student-faculty interaction, peer-to-peer collaboration, and active learning are thought to be important in both face-to-face and online learning environments (Brown 2006; Chickering and Gamson 1987; Graham et al. 2001; Pascarella and Terenzini 2005; Richardson and Swan 2003). Lee
Shulman, the president of the Carnegie Foundation for the Advancement of Teaching, asserts that because student engagement is a precursor to building knowledge and understanding, it is both a proxy for learning and a desired outcome in itself (2002). By being engaged, students develop habits of the mind and heart that promise to stand them in good stead for a lifetime of continuous learning.

The research paper by Chen, Gonyea, and Kuh (2008) on *Learning at a Distance: Engaged or Not* compared the engagement of distance learners in educational practices with that of their campus-based counterparts at the USA four-year degree-granting Colleges and Universities. The results unveiled that there was a need to ensure that online programmes are at least comparable to campus-based programmes in providing high-quality educational opportunities for students who, otherwise, might be excluded from post-secondary education.

Sampson’s study on *Meeting the Needs of Distance Learners* (2003) proposed to locate the aims and philosophies of distance learning within the experiences of actual distance learners in order to see if learners’ needs were being met by the programme and to obtain a fuller understanding of the core aspects of distance education. The study found that students were, on the whole, satisfied with the course materials, the choice of modules, assignment feedback, and length of time given to complete the assignments, but significant problems surfaced regarding issues of student support, and access to and provision of resource materials. Arguably, these are issues intrinsic to the successful provision of distance learning courses, and the results both concord with the aspects of the research literature (*Burge and Howard, 1990; Chen, 1997; Hyland, 2001; Morgan, 1995; Robinson, 1995; Simpson, 2000; Tait, 2000*).

The study of Martin (2012) on *Student Satisfaction With Textbook Usage at Distance Education Institutions Versus Media at More Traditional/Residential Universities* determined to what extent students in South Africa use textbooks in their studies. The results indicated a strong reliance on the textbook as a study resource with limited differences between the University of South Africa (UNISA), as an open distance learning (ODL) institution, and the more traditional/residential Universities. According to Watt (2004), research literature on the use and curriculum role of materials (textbooks) in the United States has emphasized that
teachers and students depend on such materials. Megna Publication (2009) report on distance education titled *Strategies for Increasing Online Student Retention and Satisfaction*, explored that despite the tremendous growth of distance education, retention remains its Achilles’ heels. Estimates of the failed retention rate for distance education undergraduates range from 20 to 50 percent. Distance education administrators believe the failed retention rate for online courses may be 10 to 20 percent higher than for face-to-face courses. The report explained that there is significant positive impact of web-based technologies on the retention of the students and adoption of pro-active strategies proven to mitigate potential retention problems.

Hill (2009) explained that student retention in distance learning retention is a “multi-variant” problem and can not be addressed by a single solution. So, instead of a single magic bullet for attrition, he proposed a series of interventions viz. early alert program, online tutoring program, more tutoring, student success course, learning communities and peer tutoring to increase student retention.

The empirical study of Palmer (2011) on *Assessing Student and Faculty Satisfaction in a Master of Counseling Distance Education Paradigm* assessed student and faculty satisfaction in graduate distance education counseling programmes. The survey strived to uncover if links were present between student satisfaction with: (a) student enrolment, success, and retention; (b) faculty involvement in distance education; and (c) programme development and quality. Subsequently, faculty survey questions endeavored to explore any links between faculty satisfaction and: (a) faculty involvement and retention, (b) student success and satisfaction, and (c) programme development and quality. The study found significant positive links between all the above factors.

Evaluating student satisfaction in distance education programmes may have significant implications for enrolment and student success (Biner, Barone, Welsh, and Dean, 1997; Richards and Ridley, 1997). Chyung and Vachon (2005) asserted in their empirical study that, when satisfied, individuals are likely to continue with the behaviours that contribute to the satisfying outcome, and postulated that continued enrolment in distance learning programmes is influenced by the degree of satisfaction or dissatisfaction the student
experiences. Bolliger and Martindale (2004); and Yukselturk and Bulut (2007) found that student satisfaction is correlated with motivation and subsequently with success. Garnham and Kaleta (2002) confirmed in their empirical study that distance learning students who were satisfied with and valued their experience were likely to recommend this educational format to others. Further, Chyung, Winiecki, and Fenner (1999) indicated that satisfaction and success in previous distance education courses influence students’ decisions about continued enrolment.

Chyung et al. (1999) stated that nearly half of the students who drop out of distance education programmes cited that they were dissatisfied with the educational paradigm. Jun (2005) supported Chyung et al. findings as she reviewed the numerous factors related to student dissatisfaction that are correlated with student drop out. For example, Jun noted when students were dissatisfied with distance education, they report negative emotionality and stress about their online experience.

Overall, negative emotionality and stress have been correlated with physical health concerns, relationship difficulties, and a decrease in educational and professional performance (Gallo and Matthews, 2003; Glaser and Newton, 2001; Suinn, 2001; Wolf, 1994). Thus, it seems important to assess and prevent negative emotionality in students.

Student achievement and attitudes with the educational paradigm appear to be impacted by the faculty in terms of: (a) attitudes towards their job, (b) motivation for and involvement in distance education, and (c) delivery of the programme quality (Fredericksen et al., 2000a; Cook et al., 2009; Early and Murphy, 2009; Tabata and Johnsrud, 2008). Further, these researchers have noted that faculty attitudes, through their empirical investigations and literature reviews, are impacted by various aspects of distance education programming and administrative support (e.g., training, incentives, release time, technical support).

Therefore, it seems that there may be a synergistic effect between distance education contributors and faculty factors which affect student satisfaction and success in distance education paradigms. By studying student satisfaction, insight into the effects of faculty factors can be gained.
Student satisfaction is vital due to its link with programme attractiveness, quality, and success (Donio et al., 2006; Fullerton and Taylor, 2002; Lin et al., 2008; Zygouris-Coe et al., 2009). Thus, student satisfaction would seemingly lead to increased student enrolments, both of which would reflect an attractive, valuable, and successful programme. Further, since Vaughan (2007) found, in his empirical investigation, that distance learning programmes could develop an institution’s prominence, an opportunity to develop programming that left students successful and satisfied would likely increase student enrolment and allow the institution to expand its programming. Thus, it seems crucial for developers and administrators of distance education programmes to be aware of the factors that contribute to student satisfaction and, subsequently, programme success (Fredericksen et. al., 2000a; Swan, 2001).

Satisfaction indicators are also valuable since they can assist administrators in making decisions about student admissions and in advising students about programming. For example, in two empirical studies, Cicco (2007) and Drennan, Kennedy, and Pisarski (2005) positively linked: (a) positive attitudes towards online learning with specific learning style preferences; and (b) student attitudes regarding locus of control, learning flexibility, and an innovative attitude in distance education paradigms, respectively, with educational success and learning preferences.

Another empirical study demonstrated that distance-educated students correlated student satisfaction with student perceptions of the value of the educational endeavour and their ability to be successful in the programme. Lin et al. (2008) in their survey study of 110 graduate e-Learners discovered that students who hold a higher regard for the distance learning task and learning content identified more positive experiences with the distance learning endeavour. Further, Lin et al. identified that social ability, intrinsic goal orientation, task value, and self-efficacy comprised approximately 63% of the variance of student satisfaction in distance education paradigms. Thus, nearly two-thirds of student satisfaction in distance education is influenced by these identified variables. Due to this finding, Lin et al. recommended that administrators of distance education programmes be mindful of these influential factors when
governing e-learning pursuits in order to develop and promote a positive learning experience
for the students.

Faculty may influence student achievement and attitudes within the educational paradigm
(Fredricksen et al., 2000a; Cook et al., 2009; Oomen-Early and Murphy, 2009; Tabata and
Joensrud, 2008). For example, instructors those are overwhelmed with their workload and are
not receiving adequate release time, incentives, or support, may negatively compensate in the
course to alleviate the extra demands. This assertion was corroborated by faculty respondents
in Oomen-Early and Murphy’s survey research (2009) indicating that there was not enough
time to complete email responses, course design and administration, complete grading of
assignments, engage in research activities, and advise and support students. This negative
compensation by faculty could potentially impact students negatively, affecting student
attitudes towards the learning paradigm and their eventual success with it.

Fredericksen et al. (2000); and Oomen-Early and Murphy (2009) in their empirical research
suggested that assessing factors associated with faculty satisfaction could inform
administrators of the areas for programme improvement, which would provide a more
satisfying experience for instructors and a better quality programme. Further, these factors
could assist in terms of developing adequate training, creating policies, providing adequate
faculty supports, and decreasing faculty burnout (Cicco, 2009; Oomen-Early and Murphy,
2009; Vaughan, 2007). Thus, Cook et al. (2009) recommended more research be conducted to
assess satisfaction in faculty teaching distance education. Tabata and Joensrud (2008) indicated
in their empirical study that administration and policy makers need to have a clear
understanding of the factors that will help retain instructors in distance education paradigms,
contribute to quality programmes, and, as noted by Vaughan (2007), enhance the reputation of
the learning institution.

The research paper by Reeves and Osho (2010) on The Satisfaction of Community College
Students Regarding Distance Education Versus Traditional Education addressed to analyse
significant differences between the course satisfaction of community College students who
received distance education instruction and the course satisfaction of community College
students who received traditional instruction. The results showed there was no significant difference on the course satisfaction of community College students who were enrolled in distance education instruction courses when compared to their counterparts enrolled in traditional instruction courses.

The research paper by Bernath (2003) on *Student Satisfaction in The Online Master of Distance Education (MDE)* examined the student satisfaction in online distance education learning and found that the programme has been managed efficiently and MDE students’ were highly satisfied with the programme, its courses and the faculty. The research paper by Richardson, and Swan (2003) on *Examining Social Presence In Online Courses In Relation To Students' Perceived Learning and Satisfaction* demonstrated that social presence not only affects outcomes but also student satisfaction, and possibly instructor satisfaction also in an online course. This study found that students with high overall perceptions of social presence also scored high in terms of perceived learning and perceived satisfaction with the instructor. Students’ perceptions of the overall social presence, moreover, contributed significantly to the predictor equation for students’ overall perceived learning. Gender accounted for some of the variability of students’ overall perception of social presence, while the age and number of College credits earned did not account for any of the variability.

The research paper by Sinclaire, Simon, Campbell and Wilkes (2010) on *Does Relational Communication Training Improve Student Satisfaction with Web-assisted Courses* explored factors affecting differences in student satisfaction between a traditional classroom environment and a web-assisted (online) course environment. Although it was hypothesized that students in the traditional learning environment would report a higher level of satisfaction with the course than students in the online learning environment, this hypothesis was not supported. Instead, the significant main effect in terms of the learning environment and satisfaction with the course was in the opposite direction: Students in the web-assisted group reported a higher level of satisfaction with the course. Other comparisons showed that students in the web-assisted group, who received communication training, reported greater satisfaction with the course and greater satisfaction with the group process/project than students who did
not receive any training, although the difference between satisfaction with the course scores was not statistically significant.

Despite its focus on earlier technology, notable research on distance education (Russell, 2001) indicated that learning outcomes are the same regardless of the delivery mechanism (i.e., distance versus face-to-face). Karatas and Simsek’s report (2009) found no significant relationship between the different types of learning systems (online or face-to-face) and student satisfaction, which was consistent with the research by Casey (2004), Misanchuk (2003), and Stein and Wanstreet (2003) (as reported in Karatas and Simsek, 2009). At the same time, another research claims that online students are less satisfied than traditional students (McFarland and Hamilton, 2006; Priluck, 2004).

Strachota’s study (2006) on The Use of Survey Research to Measure Student Satisfaction in Online Courses measured student satisfaction as an online programme evaluation outcome. Learner-content interaction and learner-instructor interaction were found to be the most important variables for a satisfying online experience. Powell’s study (2007) on Student Satisfaction with a Distance Learning MPA Programme: A Preliminary Comparison of On-Campus and Distance Learning Students’ Satisfaction with MPA Courses explored student perceptions of course quality and instructor effectiveness in a hybrid MPA distance learning programme. The results of the exploratory study indicated there are few significant differences between the satisfaction levels of distance learning and on-campus students. Despite the different modes of delivery and the accelerated nature of the distance learning programme, both distance learning and on-campus students are highly satisfied with the quality and delivery of the four courses analyzed in this study.

The research paper by Giannousi et al. (2009) on Students’ satisfaction from blended learning instruction investigated the effectiveness of blended learning instruction in terms of students’ satisfaction. Data analysis revealed that perceived e-learner satisfaction was higher than the average, indicating students’ high satisfaction with the overall learning experience. Internet education is now not only an established phenomenon but also a growing industry. During the past few years, the number of courses offered online has greatly increased as technology has
made delivery of such courses more feasible. According to Allen and Seaman, (2007), improving student access to higher education had been cited as a major reason for offering more online courses and programmes. The term ‘blended learning’ is used to describe a learning situation that combines several delivery methods with the goal of providing the most efficient and effective instruction experience by such combination (Harriman, 2004). Blended learning environment, which is regarded as a different type of distance education, amalgamates the advantages of distance education with the effective aspects of traditional education, such as face-to-face interaction (Finn and Bucceri, 2004). Singh (2003) had gone one step forward and introduced the term ‘blended e-learning’. The aim of using blended learning approaches is to find a harmonious balance between online access to knowledge and face-to-face human interaction.

Tohm’s exploratory study (2012) on Student Satisfaction and Frustration with Online Education: a CMC Theoretical Analysis examined the student perspective of online education in terms of personal satisfaction and frustration by interviewing eight students with online education experience and analyzing their perceptions using existing computer mediated communication theories. The study found that students experience both satisfaction and frustration in online classes—much the same way the students in traditional classroom environments experience those same feelings.

The research paper by Brott et al. (2006) on Student Satisfaction with and Perceptions of Relationship Development in Counselor Education Video-conferencing Courses explored student perceptions of counselor education courses taught at a distance using video teleconferencing (VTC); specifically, student satisfaction with course delivery and relationship development in the VTC environment was the focus of the study. Participants reported highly positive feelings about the instructor/student relationship and perceived that relationship to be honest, direct, sincere, and open. Student satisfaction and relationship development in the VTC class environment were found to be related to one another. However, the technology used to deliver VTC courses was not found to be related to students’ feelings about their instructor or to their ability to build a relationship with the instructor.
The research paper by Kaul (2006) on *Higher Education in India: Seizing The Opportunity* reviewed the prevailing policy environment in this context to evaluate its efficacy in ensuring that India remains ahead of the curve in the knowledge sector which has been growing exponentially in recent years. The paper highlighted two major challenges viz. limited public funding, the role of private sector in the Indian higher education sector.

The study paper by Ali, Ramay And Shahzad (2011) on *Key Factors For Determining Student Satisfaction In Distance Learning Courses: A Study of Allama Iqbal Open University* explored student satisfaction, keeping in view the increasing demand of distance education in Pakistan. The results indicated that majority of the students at this campus showed high level of satisfaction regarding students-instructor interaction, instructor performance and course evaluation. This reveals that just like the traditional education, enough interaction takes place between students and their instructors in distance learning education at AIOU; courses are up to date and well designed; and, instructors are devoted, motivated and equipped with the required skill and knowledge.

In academia, through online classes, Universities now have the ability to provide distance learning opportunities for students--- full-time or part-time, traditional or non-traditional and international, who perhaps have had limited access to advanced educational opportunities (*Bartley et al.*, 2004). The rising demand and growing consumer experience with flexible education programmes to support career development and lifelong learning increase people’s expectations in terms of quality instructions, effective educational outcomes, and finally satisfaction in learning (*Debourgh, 1999*).

Allen et al. (2002) and Wang (2003) argued that in any educational institution, satisfaction of a student can be determined from his level of pleasure as well as the effectiveness of the education that the student experiences. Since students with higher levels of satisfaction towards various aspects of e-learning courses are also reported to attain considerably higher levels of learning than students with low level of satisfaction (*Fredericksen, 2000*). In this regard, the management (and specifically instructors of e-learning courses) can increase their
students' satisfaction by considering the primary factors of student satisfaction (Ho et al., 2002).

No doubt, modern information technology tools and methods create many opportunities of communication and cooperation for students and instructors, separated with each other due to time and space (Belanger and Jordan, 2000). However, besides perception of the technological innovation, quality and timely interaction between student and teacher, interaction among students, flexibility of online courses, technical support availability, and consistent course design across courses are also important to assure the development of distance learning education (Swan et al., 2000; Lao and Gonzales, 2005: Young and Norgard, 2006).

Conrad (2006) argued that distance learning occurs when students and instructor do not meet personally in the same physical space. Similarly, Roffe (2002) described that distance learning refers to the way people communicate and learn by electronic means. He further added that in the information society, distance learning has come forward as a main resource of competitive advantage. The paper by Osei (2010) titled Perceptions of Students towards Use of Distance Learning: the Case in an Executive Masters Business Program in Ghana investigated the perceptions held by graduate students about distance learning offered by the Kwame Nkrumah University of Science and Technology, Ghana. The results indicated that distance learning is most patronised by an older and married student population largely because it allows them to combine work and study. The data indicated that student perceptions of distance learning were positive. Respondents indicated that they are satisfied with teaching and learning by distance and also satisfied with learner support provided by the host institute.

According to Allen and Seaman (2007), improving students’ access to higher education has been cited as a major reason for offering DL courses and programmes. Distance Learning involves a student-centred approach in which the instructor takes the role of the facilitator and students engage in peer learning (Maor, 2003; Mitchell et al, 2005). The literature on education cites several examples of research that has been conducted on DL (Chambers, 2006; Hagel and Shaw, 2006; Liao, 2006; Muilenburg and Berge, 2005). There is emphasis in the literature on
the importance of research for improving students’ DL experiences (Levin and Wadmany, 2006; White, 2005).

According to Sahin and Shelley (2008), students’ needs and perceptions should be central in the design, development and delivering of distance education courses. Overall, the literature suggests that there is a need to understand better the variables that affect student enjoyment of distance learning courses. This may lead to a greater understanding of the benefits and limitations of learning by distance and could be useful to programmes considering the implementation of DL initiatives and/ or students planning to enrol in DL.

Sahin and Shelley (2008) contend that it is important for researchers and social scientists to explore the relationship between student satisfaction and DL. Accordingly, the study sought to assess students perceptions about distance teaching and learning to determine their level of satisfaction in the DL mode compared to their experiences in conventional University classroom settings.

The study by Bray et al. (2008) on Predictors of Learning Satisfaction in Japanese Online Distance Learners examined student satisfaction in regard to five aspects of distance learning identified as important: (1) learner-teacher interaction, (2) learner-content interaction, (3) learner-learner interaction, (4) learner-interface interaction, and (5) student autonomy. Results indicated that students were generally satisfied with their learning, and that, specifically, learning satisfaction was higher for students who: (1) could persevere in the face of distance learning challenges, (2) found computers easy to use, (3) found it easy to interact with instructors, and (4) did not prefer social interaction with others while learning.

Garrison and Shale (1987) wrote that the distinguishing feature of distance education was that it could “extend access to education to those who might otherwise be excluded from an educational experience”. Now, 20 years later, access to learners has greatly increased due to several factors, one of the most important factors being technological developments facilitating the worldwide spread of the Internet. Particularly, adult learners who live at a distance from educational institutions, or who lack the time to attend face-to-face classes due to the demands
of work and family, have benefited from the growth of distance learning, and older “non-
traditional students,” make up the majority of many post-secondary distance learning
programmes.

Despite the successes in terms of increased access to education, quality issues are still much
debated in regard to distance learning. Although the question of whether distance learning
courses can be as effective as face-to-face courses has largely been answered in the affirmative
(Russell, 1999), teachers and programme designers still face challenges in deciding how to best
design learning programmes so that they could be effective for a broad range of students.
Anderson (2003) has written of the challenge of “getting the mix right” among the three
dimensions of learning: (1) teacher interaction, (2) content interaction, and (3) student
interaction. Anderson’s equivalency theorem states that individual students may need or may
prefer different mixes of activity types, and, importantly, if the quality of the educational
experience in any one dimension of interaction is high enough, “sufficient levels of deep and
meaningful learning can be developed....” This theorem supports learner differences and
counters the idea that there is only one best way to teach or learn at a distance.

When designing distance learning programmes, the task of “getting the mix right” becomes
more challenging within the growing cross-border educational contexts that distance learning
facilitates. Asian countries, with their large populations and growing economies, stand well-
poised to benefit from the development of distance learning, both in their own educational
institutions and also when their students attend the institutions across borders via distance
education. Theorists (Hofstede, 1986; Moore, 2006; Swan, 2004), however, have suggested
that there may be important differences in how students from different cultures view the
learning process and prefer it to take place.

Jin and Cortazzi (1998), in a cross-cultural questionnaire study with Chinese and British
students attending traditional lecture classes in their own countries, found differences in the
“culture of learning,” and, in particular, views on the ideal role of the teacher in the learning
process. Gunawardena, Nolla, Wilson, Lopez-Islas, Ramirez-Angel, et al. (2001), in a large
cross-cultural questionnaire study with Mexican and American students, found cultural values
affected perceptions of group development processes when students interacted online. Morse’s (2003) exploratory case study with online learners found that a group of mixed Asian students had stronger preferences for immediate feedback from the teacher and a greater interest in interaction with other students than did a group of predominantly New Zealander students. New Zealander students, on the other hand, were more appreciative of the convenience provided by distance learning than the Asian students. Morse therefore suggests that it may be a mistake to assume that “one size fits all” when teaching online classes with learners from other cultures, because although these two groups were culturally dissimilar, the Asian students were even more dissimilar because they were studying as foreign students using a second language.

With the increase in cross-border educational contacts facilitated by the Internet, there is a greater need for understanding of the approaches to the learning required to support students from other cultures in order to “get the mix right” and to avoid projecting false or stereotypical images onto them or ignoring important differences. To meet this need, the present study was undertaken with the students of one of Japan’s few online distance Universities to determine the relationships between their learning satisfaction and (1) their opinions about distance learning, (2) general learning preferences, and (3) demographic variables.

Namsook Jahng et al. (2008) study on Student Achievement in Online Distance Education Compared to Face-to-Face Education investigated technology contribution to student achievement in ODE. The result showed no significant difference between the two settings. However, the student achievement comparison revealed an interesting result when the primary studies were categorized by whether the experimental study conducted a pre-test or not. In the pre-tested group of studies, student achievement in ODE was significantly higher than F2FE, even though there was no difference in terms of prior knowledge between ODE and F2FE. On the other hand, student achievement from the no pre-test group of studies resulted in no significant difference between the two settings.

Some researchers believe advancement of technology influences a better quality of learning, while others insist that there is no benefit from different kinds of media. Regarding the quality
of learning through ODE, much of the research has concluded that learning in ODE is as good as the learning in face-to-face education (F2FE) (Hong, 2002; Kleinman, and Entin, 2002; Rovai, 2002). On the other hand, contradictory findings from individual studies have reported on student achievement between the two settings. Even the quantitative and qualitative reviews of synthesizing the individual experimental studies have reported inconsistent results. Thus, more comprehensive and intensive analysis is required to examine the difference in student achievement in ODE compared to F2FE.

In the literature, there exist various results from individual comparative studies on whether student achievement in DE is better or worse than in face-to-face education (F2FE). A good many reviews of the literature on the distance education effectiveness have concluded that distance education courses are as effective as face-to-face courses (Allen, Bourihis, Burrell, and Mabry, 2002; Bernard et al., 2004; Cavanaugh, 2001; Machtmes and Asher, 2000; Mayzer and Dejong, 2003; Murphy, 2000; Phipps and Merisotis, 1999; Ramage, 2002; Russell, 1999; Schulman and Sims, 1999; Zhao and Tan, 2004). These studies reported that student achievement in DE can be as good as that in F2FE. Furthermore, some recent studies reported higher achievement in distance education than F2FE (e.g. Shachar and Neumann 2003; Bernard et al., 2004). Some studies also assert a more positive trend of student achievement in distance education settings than in F2FE settings as time goes by (Machtmes and Asher, 2000; Zhao et al., 2004).

Russell's (1999) research was the most frequently cited and also most criticized study in the literature on distance education. He collected 355 studies ranging from 1928 to 1998, covering all academic levels and delivery media types from correspondence to web-based courses. He compiled the extensive studies and listed the findings of the results, concluding that 90 percent of the primary studies reported no significant differences between distance education and F2FE in terms of student achievement. Russell (1999) asserted that no matter what kinds of media were involved distance education was as effective as F2FE.

Phipps and Merisotis (1999) sampled about 40 studies that were articles, essays, and other writings and they reported that, "Most of these studies conclude that regardless of the
technology used, distance learning courses compare favourably with classroom-based instruction and enjoy high student satisfaction" (Phipps and Merisotis, 1999).

Shachar and Neumann's research (2003) compared students' final grades in distance education with those in traditional classes. Their meta-analysis of 86 studies between 1990 and 2002 resulted in an overall effect size of 0.37. They concluded that the overall effect size was a significant difference adopting their alternative hypothesis, "The final academic performance grades of students enrolled in distance education programmes are higher than those enrolled in traditional F2F programs" (ibid).

Bernard et al. (2004) reviewed the literature of empirical studies between 1985 and 2002 focusing on achievement, student attitudes, and retention rates. They investigated the effectiveness of distance education compared with its classroom-based counterparts, analyzing 688 effect sizes from 232 studies across all academic levels, media types, instructional methods and outcome measures. Accordingly, they found that there was a small but significant effect favouring distance education conditions on overall achievement outcomes.

It is also noteworthy that the two meta-analysis studies by Machtmes and Asher (2000) and Zhao et al. (2004) established that there was a significant relationship between the publication year and a positive effect in distance education. Machtmes and Asher (2000) examined literature on experimental studies on tele-courses in adult and higher education. They reviewed 19 comparative studies ranging from 1943 to 1997. They coded the studies according to the decade that the study was conducted and found that each successive decade had a larger impact on learner achievement. They showed that "The effect sizes increased and moved toward positive values as the decades progressed: 1960s = -0.09; 1970s = -0.20; 1980s = +0.04; and 1990s = +0.23" (Machtmes and Asher, 2000, p. 40). The authors argued that these results might be caused by technological advances in the media that allowed for greater interaction and various presentation styles, concluding that technology was clearly the most significant difference between these decades: not only were effect sizes more positive in the latter two decades, but became greater moving from the 1980s to 1990s. Machtmes and Asher (2000)
attributed this change of effectiveness to improvements in technology such as CD-ROM and web-based instruction.

Zhao et al. (2004) sampled 51 articles from peer-reviewed journals published between 1966 and 2002. They confirmed previous research findings (e.g. Clark, 1983; Russell, 1999; Phipps and Merisotis, 1999; Machtimes and Asher, 2000) that reported "no significant difference between distance education and F2FE" (Zhao et al., 2004). When they categorized the primary studies by publication years, however, they found that "significantly positive effectiveness" in distance education from the articles published after 1998, while there was no significant difference between the two settings found in the publications prior to 1998. They interpreted the finding as a possible influence of the significant changes in technology that were employed in distance education around the mid-1990s such as learning material presentation and communication through the World Wide Web and the Internet.

Clark and Kozma represent the opposite ends of a debate regarding the influence of media on the effectiveness of education. Clark (1983) concluded that "Consistent evidence is found for the generalization that there are no learning benefits to be gained from employing any specific medium to deliver instruction". He argued that media are mere vehicles that do not influence learning. Clark's (1983, 1994) assertion has been supported and confirmed by many researchers such as Bernard et al. (2004), Phipps and Merisotis (1999), Rovai (2002), and Zhao et al. (2004).

A decade later, Kozma (1994) revisited Clark's claim and questioned "Will media influence learning?" In terms of "media's capabilities", he argued that considerable changes had been made since the 1980s. Kozma (1994) pointed out the samples Clark (1983) had reviewed were too old to assess the effectiveness of recent media because most of them were published before the 1980s. Anticipating the advent of more interactive media in the near future, Kozma (1994) expected more abrupt changes. He claimed that "If there is no relationship between media and learning it may be because we have not yet made one". Refuting Clark's delivery truck metaphor, that media simply conveys content, Kozma (1994) argued on the basis of constructivism - that learning is not a receptive response to instruction's delivery. Shuell (1988)
stated that "learning is an active, constructive, cognitive and social process by which the learner manages the available cognitive, physical, and social resources to create new knowledge by interacting with information in the environment and integrating it with information already stored in memory" (cited in Kozma, 1994).

With Kozma's view of abrupt changes in more interactive media since mid-1990s, the web media of today can be substantially different from the older media. In this respect, Kozma's assertion on the role of media should be re-evaluated with a comprehensive review based on comparative experimental studies published since 1995, the time when the web technologies were introduced in distance education.

Phipps and Merisotis (1999) identified critical methodological flaws in primary studies that influenced the overall quality of control of extraneous variables, sampling, validity and reliability of the experiments. Benard et al. (2004) asserted that the wide distribution of effect sizes precluded any firm declarations of the effectiveness of distance education. They insisted that the tremendous variability in terms of effect sizes hailed from a methodological weakness in distance education research. Although the quality of primary studies included meta-analysis studies (e.g. Cavanaugh, 2001; Matchmes and Asher, 2000), it was ostensibly higher than those complied in Russell's review (1999) because of careful screening procedures in sampling studies. The low quality of methodological design in primary studies was still blamed for the significant heterogeneity of the effect sizes (Zhao et al., 2004).

**RATIONALE OF THE STUDY**

Gaps in the existing studies showed that there was a need to make a fresh attempt to examine the level of student satisfaction, adoption of ICT technologies amongst the Universities, compare the level of services quality offered by the different selected Universities of North India and to analyze the impact of ICT on student satisfaction, and student enrolment of the selected Universities of North India providing distance education as a number of improvements could be incorporated on account of gaps in the existing literature. The need for the study could be encapsulated in the following points:
Most of the studies reported in the literature had been conducted in the developed countries. Since there was a significant impact of environment, culture, paying capacity, economy, habits etc. on the student behaviour, therefore the concepts and practices pertaining to distance education in India would have to be different.

Hardly any study had been reported on distance education sector of India. The need for such a study arose as higher education services have now occupied the prime position among the economic scenario for the country. Educational services were the fastest growing sector of Indian economy and hence the need for focusing on this sector.

Increased competition among the Indian Universities providing distance education required them to adopt the student-centric strategy for student retention through student relationship method rather than tapping new students. In order to counter the competition, Indian Universities had to undertake continuous information gathering, analysis, and dissemination and use it to obtain a cutting edge in the present education scenario.

There were also methodological lacunae, which could be improved. The definition of concepts of ‘student’, ‘service provider’, ‘management’ and the ‘type of technology’ needed to be defined in the organizational context of Indian scenario. The review of literature implied student retention, peer group, 360 degree view, satisfaction, profitability, etc., contributes implicitly and explicitly, separately and in combination. Most of what was stated in the literature was judgmental.

Hence, the present study was conducted and it was a systematic attempt to analyze diverse dimensions of Distance Education and Student Satisfaction because the student retention capacity of the organization depends upon the strategy, management directives, employee’s involvement and type of technology adopted by the organization to interact and maintain relationship with the students.