Distance Education: Update Way of Interaction and Learning

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Abstract- The article discovers the field of distance education that has changed dramatically in the past ten years. Distance education, structured learning in which the student and instructor are separated by place, and sometimes by time is currently the fastest growing form of domestic and international education. What was once considered a special form of education using nontraditional delivery systems, is now becoming an important concept in mainstream education. 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 programs that are now racing to join the "anytime, anyplace" educational feeding frenzy.

Index Terms- Distance education, distance learning, foreign languages, interaction, method, e-learning tools.

I. Introduction

Theories serve to satisfy a very human "need" to order the experienced world [1]. This order will reflect the principles, standards and ideals that will influence and shape practice. Theories can be derived from efforts to explain or make sense of observed phenomena, or by reasoning through the implications of existing theories. Theories are necessary because they help us to understand, communicate and predict the nature of a discipline or a field of practice, its purpose, goals, and methods. Theories help to shape practice, and practice in turn contributes to the development of theory. One of the critical challenges the field of distance education has faced is the need for the continuous development of theory necessitated by the rapid changes brought about by the development of new communications technologies used as delivery media. Theorists are challenged to adapt theories to understand the learning environments created by new technological developments or to develop new theories to explain or make sense of these new and emerging technologies. Another challenge that has faced theory development is whether theorists should borrow theories from other disciplines to explain distance education or develop unique theories that describe the nature of the field.

II. Distance Education and Modern Educational Requirements

Distance education has come of age and matured as a field of education developing theoretical constructs that describe its unique nature [2]. It has moved beyond debates about defining the field to focus on the systematic development of theoretical constructs and models. In a seminal article addressing the theoretical challenges for distance education in the 21st century, Garrison (2000) observes that in "surveying the core theoretical contributions of the last three decades, we see evidence of a sound theoretical foundation." [cited in 3]. He notes however, that it is less obvious as to whether the current state of knowledge development is adequate to explain and shape new practices for a broad range of emerging educational purposes and experiences.

Garrison argues that the 21st century represents the postindustrial era where transactional issues (i.e., teaching and learning) will predominate over structural constraints (i.e., geographical distance). He observes that distance education in the 20th century was primarily focused on distance constraints and approaches that bridged geographical distance by way of organizational strategies such as the mass production and delivery of learning packages. This period has been identified as the industrial era of distance education consistent with Coldeway's description of the field as an industrial form of education [4]. Garrison notes that more recently the focus in the study of distance education has shifted to educational issues associated with the teaching–learning process, specifically concerns regarding real, sustained communication, as well as emerging communications technology to support sustained communication anytime, anywhere.

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Therefore, issues that involve the learner, the instructor, the technology, and the process of teaching and learning are becoming increasingly important. Because distance education has moved away from the industrialization of teaching to learner-centered instruction, distance educators must move ahead to investigate how the learner, the instructor and the technology collaborate to generate knowledge. In order to understand the theoretical issues that face the field today, it is important to reflect on the development of theoretical constructs in the last century. Traditionally, both theoretical constructs and research studies in distance education have been considered in the context of an educational enterprise which was entirely separate from the standard, classroom- based, classical instructional model. In part to justify, and in part to explain the phenomenon, theoreticians like Holmberg, Keegan, and Rumble explored the underlying assumptions of what it is that makes distance education different from traditional education. With an early vision of what it meant to be a nontraditional learner, these pioneers in distance education defined the distance learner as one who is physically separated from the teacher (Rumble) has a planned and guided learning experience (Holmberg), and participates in a two-way structured form of distance education which is distinct from the traditional form of classroom instruction (Keegan) [5]. In order to justify the importance of this nontraditional form of education, early theoretical approaches attempted to define the important and unique attributes of distance education. Keegan identifies three historical approaches to the development of a theory of distance education [5].

Due to the rapid development of technology, courses using a variety of media are being delivered to students in various locations in an effort to serve the educational needs of growing populations. In many cases, developments in technology allow distance education programs to provide specialized courses to students in remote geographic areas with increasing interactivity between student and teacher. Although the ways in which distance education is implemented differ markedly from country to country, most distance learning programs rely on technologies which are either already in place or are being considered for their cost effectiveness. Such programs are particularly beneficial for the many people who are not financially, physically or geographically able to obtain traditional education. Although there is an increase in the number of distance services to elementary and secondary students, the main audience for distance courses continues to be the adult and higher education market.

III. Implementation of Distance Learning in Linguistics

Distance education has experienced dramatic growth both nationally and internationally since the early 1980s. It has evolved from early correspondence education using primarily print based materials into a worldwide movement using various technologies. The goals of distance education, as an alternative to traditional education, have been to offer degree granting programs, to battle illiteracy in developing countries, to provide training opportunities for economic growth, and to offer curriculum enrichment in nontraditional educational settings. A variety of technologies have been used as delivery systems to facilitate this learning at a distance. In order to understand how research and research issues have developed in distance education, it is necessary to understand the context of the field. Distance education relies heavily on communications technologies as delivery media. Print materials, broadcast radio, broadcast television, computer conferencing, electronic mail, interactive video, satellite telecommunications and multimedia computer technology are all used to promote student-teacher interaction and provide necessary feedback to the learner at a distance. Because technologies as delivery systems have been so crucial to the growth of distance education, research has reflected rather than driven practice. Early distance education research focused on media comparison studies, descriptive studies, and evaluation reports. Researchers have examined those issues that have been of particular interest to administrators of distance education programs such as; student attrition rates, the design of instructional materials for large scale distribution, the appropriateness of certain technologies for delivery of instruction, and the cost effectiveness of programs. However, the growth of flexible learning, networked learning and distributed learning models, is blurring the distinctions between distance and traditional education. These models and their related network technologies also have the capability of creating new environments for learning such as “virtual communities.” For more than 8 years, students in traditional settings have been given entire courses on CD-ROM multimedia disks through which they have progressed at their own pace, interacting with the instructor and other students on electronic mail or face to face according to their needs. These materials are now available using web-based multimedia technologies. In earlier collaborative projects, students around the world participated in cooperative learning activities sharing information using computer networks [6]. In these cases, global classrooms often have participants from various countries interacting with each other at a distance. Many mediated educational activities have allowed students to participate in collaborative, authentic, situated learning activities [7]. In fact, the explosion of information technologies has brought learners together by erasing the boundaries of time and place for both site based and distance learners. Research in distance education reflects the rapid technological changes in this field. Although early research was centered around media comparison studies, recent distance education research has examined four main underlying research issues: learner needs, media and the instructional process, issues of access, and the changing roles of teachers and students [8]. Educators have become more interested in examining pedagogical themes and strategies for learning in mediated environments [9; 10]. Knowledge construction and mediated learning offer some of the most promising research in distance education [11; 12].

IV. Interaction and Learning

The issue of "interaction" has been an area of much debate in the practice of distance education. Often debated questions are: What type and level of interaction is essential for effective learning? Does interaction facilitate learning and transfer? How does synchronous (realtime) and asynchronous (time-delayed) interaction contribute to learning? Is interaction more important for certain types of learners? Should patterns of interaction change over time when designing a distance education course? Is it worth the cost? Computer-mediated communication (CMC) has led to the emergence of networked learning communities, or "cybercommunities" bound by areas of interest, transcending time and space [13]. It is the ability to facilitate communities of inquiry to engage in higher order thinking in many disciplines that is one of the most important contributions of this medium for online learning. Many of the studies on interaction have tried to examine the "interaction" that occurs in such collaborative learning environments using methods such as content analysis and interaction analysis of computer transcripts. Wagner makes a significant contribution to understanding the relationship between interaction and learning by proposing an analytical framework for assessing the learning process through the facilitation of interaction in a collaborative computer conferencing environment [14]. She proposes a system of content analysis which involves breaking messages down into units of meaning and classifying these units according to their content. The model consists of five dimensions of the learning process: participation, interaction, social, cognitive and the metacognitive. This framework has informed studies of collaborative learning. Garrison (2000) has noted that Wagner's real contribution is that it is a collaborative view of teaching and learning that provides a potential structure for coding CMC messages to study the nature and quality of the discourse [15]. Utilizing Wagner's model as a starting point, Winn began to address questions related to the process and type of learning that occurred in an online professional development conference conducted as a debate across international time lines They used interaction analysis [16] of the computer transcript as their method. They were interested in examining the relationship of interaction to learning evident in the following two questions:

1. Was knowledge constructed within the group by means of the exchanges among participants? And,
2. Did individual participants change their understanding or create new personal constructions of knowledge as a result of interactions within the group?

In using Wagner's model as a framework of analysis to address these two questions, Winn found that Wagner's definition of the concept of interaction was unsuited for the interactions that occur in a computer conferencing environment. They, therefore, proceeded to define interaction within the CMC environment and develop a framework of interaction analysis that would be more appropriate for analyzing the debate transcript. Winn believed that the metaphor of a patchwork quilt better describes the process of shared construction of knowledge that occurs in a constructivist learning environment [16]. The process by which the contributions are fitted together is interaction, broadly understood, and the pattern that emerges at the end, when the entire gestalt of accumulated interaction is viewed, is the newly created knowledge or meaning. They defined interaction as the essential process of putting together the pieces in the cocreation of knowledge. Based on this new definition of interaction, the debate was analyzed for the (1) type of cognitive activity performed by participants (questioning, clarifying, negotiating, synthesizing, etc.), (2) types of arguments advanced throughout the debate, (3) resources brought in by participants for use in exploring their differences and negotiating new meanings, and (4) evidence of changes in understanding or the creation of new personal constructions of knowledge as a result of interactions within the group. Their development of an interaction analysis model is based on social constructivist theory to examine the negotiation of meaning that occurred in the online conference. They described the model in phases, as they saw the group move from sharing and comparing of information (Phase I), through cognitive dissonance (Phase II), to negotiation of meaning (Phase III), the testing and modification of the proposed coconstruction (Phase IV), and to the application of the newly constructed meaning (Phase V). In applying the model to the analysis of the debate they note that the debate format influenced the process of co-construction by sometimes supporting and sometimes hindering the efforts made by participants to reach a synthesis. The efficacy of the Winn interaction analysis model was tested in other studies. Wright (1991) analyzed a professional development forum with this model and found that the majority of learning occurred at the lower phases of the interaction analysis model (Phase I and II). The model was applied to a study at the Monterrey Technology Institute's Virtual University in Mexico by Lopez-Islas and his research team (2001). An interesting observation they made is that the phases of cognitive dissonance, and the testing and modification of the proposed coconstruction were almost absent in the conferences as the Latin culture does not favor the open expression of disagreements, and therefore, there is no need to extensively test and modify group proposals. Jeong (2001) applied the Gunawardena et al. (1997) model and developed a model of 12 critical thinking event categories, while Reschke (2001) applied the model and developed the Degree of Synthesis Model. Another interaction analysis model that has been developed for understanding learning in computer-mediated environments is Garrison, Anderson, and Archer's (2001) model that describes the nature and quality of critical discourse in a computer conference. Utilizing content analysis techniques, they suggest that cognitive presence (i.e., critical, practical inquiry) can be created and supported in a computer conference environment with appropriate teaching and social presence. Cognitive presence is defined as the extent to which learners are able to construct and validate meaning through sustained reflection and discourse in a critical community of inquiry. Cognitive presence reflects higher-order knowledge acquisition and application and is associated with critical thinking. Garrison et al. (2001) note that this practical inquiry model is consistent with the one developed by Gunawardena et al. (1997).

These interaction analysis models, an emerging area of research in distance education, present a means to evaluate the process of learning through the analysis of computer discussions. However, there are issues that need to be addressed in relation to interaction analysis or content analysis methods. Issues related to validity and reliability of the findings were addressed by Rourke et al. (2001). The need to triangulate findings with other data gathering methods such as interviews, surveys and journals is evident. As Hara et al. (2000) point out each computer conference will have its own unique attributes and researchers may have to design electronic discussion group analysis criteria on a case by case basis. For instance, a problem solving activity online will require different types of skills from a debate, or using the medium for sharing of information. While detailed analyses of computer transcripts fall within the realm of research and are very time consuming, a practitioner with relevant skills should be able to analyze small segments of computer discussions (for example, a two-week discussion) to determine the process of learning

VI. Conclusion

Distance education programs will continue to grow both in the United States and abroad. One of the reasons for this growth is related to the ever growing global need for an educated workforce combined with financial constraints of established educational systems. Distance education offers life-long learning potential to working adults and will play a significant part in educating societies around the world. Distance education will become of far greater importance in Uzbekistan in the years ahead because it is cost efficient and because it allows for independent learning by working adults. If society is to cope with this growing need for an educated workforce, distance education must continue to make its place in the educational community.

A major development in the changing environment of distance education in Uzbekistan is the rise of corporate universities and commercial institutions selling academic programs. Commercial companies are increasingly supporting the online infrastructure of universities, and universities are becoming more corporate. The globalized economy will be an increasing factor in the growth of the alternative education market in Uzbekistan, and of major educational development in many countries of the world. The growth of an information society will continue to put pressure on those countries without adequate technology infrastructure, and there will be increasing demands for access to higher education to upgrade skills for employment. Information as a commodity and the distributed nature of new knowledge will offer educators opportunities to explore alternative pedagogies and student centered learning. These developments should be questioned and examined critically through a scholarly lens. Future research should focus on establishing theoretical frameworks as a basis for research, and should examine the interactions of technology with teaching and learning. Researchers should address issues of achievement, motivation, attrition, and control.

Distance education is no longer viewed as a marginal educational activity. Instead, it is regarded internationally as a viable and cost effective way of providing individualized and interactive instruction. Recent developments in technology are erasing the lines between traditional and distance learners as more students have the opportunity to work with multimedia designed for individual and interactive learning. Print, once the primary method of instructional delivery, is now taking a back-seat to modern interactive technologies.

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