Possible Development and Future Directions of distance learning

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Abstract. This paper describes the definition and content of distance learning, and analysis why distance education has become so popular. At the same time, the way of evaluation distance education course or program was present in the thesis. Finally, the impact of distance learning on the possible development direction of future education was discussed in this article.

Keywords: distance learning, development direction, future, the way of evaluation.

1. Introduction

All sectors, especially higher education, corporate training, and continuing and professional education, want to take advantage of Internet technologies to provide education, training, and collaboration capabilities to geographically dispersed populations to enhance educational experiences and increase enthusiasm for learning. Because distance learning can provide a richer and more engaging educational experience than is possible within the confines of the classroom. So it has become more prevalent and has changed significantly through technological advances.

2. The Development of Distance Education

2.1. The History of Distance Education

Distance education started in the 1800s with a for profit school developed by Sir Isaac Pitman [1] for rural residents in Bath, England. Correspondence classes became an alternative for people needing education or training who were not able to attend or did not have access to a traditional program. There have been many notable instances of early distance education playing a major role in people's success; for example, in the 1920s Edwin Shoemaker took a correspondence course in drafting and co-developed the La-Z-Boy recliner, which started an entire industry.

Following correspondence courses delivered by mail, radio became the next delivery vehicle, and it is still commonly used in developing regions where access to the phone or Internet is limited. Instructional television became common in the 1950s and 1960s and, like radio, is still in use. While instructional television never achieved the success anticipated in those decades, arguably the most successful offshoot has been the very popular Sesame Street-type shows and the cable in the classroom programs for children. And certainly, television is still a delivery vehicle in the sense that educational videotapes are still being produced.

The U.S. Corporation IBM has developed the first computer-aided teaching system in the world since 1959. It announces that the humanity has started to enter the era of computer education application times. As computers became more widespread, computer based training distributed on CD-ROMs became common. Web-based delivery followed in the 1990s. This growth has been fueled by travel reductions, by the

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increased need for professional development in the workplace, and by perceived cost reductions. Distance education has developed rapidly with network in recent years, is regarded as a revolution of education processing in the 21 century.

2.2. Reason of Distance Education Popularity

Distance education [2] be characterized an educational situation in which the instructor and students are separated by time, location, or both. Many factors have contributed to the popularity and growth of distance education. Some are organizational, such as the desire to reduce cost or increase reach, and others are societal, including the all-too-pervasive preoccupy with technology, which just because it can be done it should be done. Another is the desire to improve the quality of education, but there is little data to substantiate.

Cost savings [3] are one of the most common motivators for starting a distance education program. Cost can be saved by reducing learner-related expenses, such as transportation to school, or by reducing institutional expenses, such as those for classrooms or buildings. However, it can be expensive to set up technology, develop courses, and compensate faculty, so the costs may just shift.

Timesaving is another often-stated reason for distance education's popularity. Certainly, for the learner, there can be a reduction in time to get to classroom. For asynchronous E-learning, there is greater flexibility to take a class at optimal times for the learner based on preferences or schedule constraints. While this potentially removes learner fatigue, when a student is in class based on the class schedule rather than personal preference, it can increase time bankruptcy, when what used to be leisure time is now spent on an online course. Timesaving also crops up in the reduced time between identifying a need to learn something and finding and taking an interesting course.

Increased accessibility [4] is another factor contributing to the popularity of distance education. Accessibility includes providing more learning opportunities to diverse students independent of location, provided the students have technology skills, access, and support. This includes students with disabilities for whom an online course is easier to take than one offered in a classroom. When an online course includes peer interaction and discussion, all students can benefit from the increased diversity possible. Lastly, online courses can provide increased access to experts, for instance, when an acknowledged expert can easily offer a guest lecture to a course and is more willing to do so because no travel is needed.

3. Evaluation of Distance Education

Evaluation [5] is the means for determining whether a program meets its goals and whether the instructional inputs match the intended or prescribed outputs. Evaluation can be a broad and continuous effort to inquire into the effects of utilizing content and process to meet clearly defined goals. All of these definitions have a common theme; evaluation can only be conducted after defining a set of criteria based on underlying the educational goals and objectives.

While the specifics involved in an evaluation vary depending on purpose of the evaluation and the philosophies and values of the stakeholders, evaluations must be systematic in order to provide useful results. The following series of steps is common to many forms of evaluation: Evaluation criteria, Data collection, Organize data, Data analysis, Reporting, Refining.

Evaluation criteria identify the phenomena to be evaluated and the design to use for the evaluation; **Data collection** identify information sources and the means of collecting necessary information; **Organize data** transform the data into interpretable; **Data analysis** interpret the data; **Reporting** frame the results in meaningful fashion for the final audience by summarizing it, interpreting the findings, and providing recommendations; **Refining** use the results to provide iterative feedback regarding the evaluated product in order to continually fine tune it.

Feedback can be obtained during and following a course using both formal means, such as online surveys and data gathering, and informal techniques. The informal include using e-mail, phone calls. Online survey design needs to balance the desire to receive feedback with student willingness to spend time filling

in a form. Multiple-choice questions are quicker to answer and compile but offer far less information than open-ended questions. Some open-ended questions were given which provide in-depth feedback such as:

1. What were the strongest aspects of this course and why?

2. What were the weakest aspects of this course and why?

3. What would you suggest to improve this course?

4. What were the most important things you learned in this course?

Additional ways of measuring training effectiveness include tracking enrolments as an indicator that training is attracting students who perceive that it will meet a need and tracking completion rate to indicate that courses were effectively designed. In such cases, assumptions are often made that require supporting data. The most essential aspect of evaluation is to determine whether learning took place. This is commonly done through testing throughout a class and at the end of a class, by comparing the results of pre-test and post-testing.

Return-on-investment may not directly help improve a course or program, but helps justify the funding and support for distance education. Typically Return-on-investment compares course development and delivery costs with student and teacher travel, classroom construction costs.

In additional, there one more thing must be especially referred to some online courses require a survey to be completed before the student receives course credit [6]. While that ensures a high completion rate, students may be less willing to respond honestly and carefully under those circumstances.

4. Future Direction of Distance Learning

4.1. The Situation of Distance Education

Most distance learning is actually blended learning, which refers to a mix of synchronous, asynchronous, and classroom. One of the challenges in planning effective distance education is selecting the appropriate mix of synchronous, asynchronous, and classroom activities, as well as determining the role of teachers and peers. From all corners of the globe, the on-line revolution is proclaimed. With the aid of the distance learning [7], today's classrooms and learning environments are undergoing a major transformation. There is a massive effort to utilize the Internet as an effective communications and storage medium for education, research, and corporate training. In the Internet and web technology era, the role of the teacher and the role of the students have been completely changed; at the same time, the educational process is not a one-way transfer of information, but rather a process of shared understanding and communication between student and teacher. In short, the educator should be helping the student learn how to learn.

It is clear that we must make use of the appropriate strengths of the distance learning because it is to have a positive impact and transformative effect on education. For example, distance education could help a single parent would not have to pay hundreds of dollars for childcare, nor need transportation to get to a campus. Most of the students had access to distance learning outside university, which aided them to complete their studies in a flexible way.

However, distance education also has some defects in lack of technology capabilities [8], lack of literacy or college skills preparation, or no social support. The at-risk adult probably has never experienced learner-centred, learn by doing, and apply this knowledge to your life type of education. Learning styles are a factor that can place a student at-risk. These items can lead to feelings of unworthiness.

4.2. The Future of Distance Learning

As we look to the future of education in a world with ubiquitous networking, we must realize that distance learning is paramount. We can't be assured that the demands of teaching have been met or that the possibilities for educational professionals have been expanded without constant and rigorous assessment. Applying the power of distance learning to education draws from many different areas of Computer Science. Distance learning provides the marvels of the modern education.

With the development of various new science and technology, distance learning shows more and more strong vitality. Artificial intelligence and learning techniques provide models for interacting with content.

Human-computer interface design and multimedia allow the student to engage the material in a meaningful way. The principles of good software engineering allow the content, lessons, and educational experience to be efficiently reused across wider audiences [9]. Ultimately, the task of enhancing our own educational processes and techniques requires a high degree of cooperation and coordination between a good many professionals in different fields, and we should be prepared to face the unique challenges posed by this new learning environment.

Accompanied by a network, virtual technology development and application, CAI develops from stand-alone teaching systems to the intelligence long-distance teaching systems, network virtual learning environment [10]. A variety of network virtual classrooms and virtual laboratory followed the birth of it. It extends the classroom space, improves the teaching effectiveness and reduces the costs of teaching. One day, all of our teaching activity may be carried on through the computer and network in the future.

5. Conclusion

With computer-assisted teaching technology of sustainable development, the actual teaching effect of Distance education becomes an issue of concern. Therefore, the problems of Distance education were analyzed, which exists nowadays in teaching process. At the same time, new solution scheme about the model of Distance education were studied in this paper. But this is only the beginning, there is still a lot of difficult topics need to be resolved. For example: Distance education is a education product. In addition, network has been main direction of international computer-assisted teaching and research at present. But the true functional intelligence teaching system has not been developed. Finally, it needs to be pointed out that the Distance education is very complicated systematic project, only through computers, artificial intelligence and educational psychology, and other multi-disciplinary experts work together, it is expected to be a breakthrough results.

It can be foreseen that Distance education will become indispensable part to people's lives in the future. Based on previous research results, the paper present possible Distance education model, which provide the necessary theoretical foundation for further studying Distance education.

This article reviews some of the current trends of distance learning. The reasons of distance education popularity were analyzed. The impact of distance learning on the culture of education and research is only beginning to manifest itself. There are a great number of open problems and challenges in this area.

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