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Survey of Online Teaching and Learning and Virtual Classroom Solutions and Architecture and approaches for E vani

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Abstract

Online education is enabling educational institutions to addresses lack of highly qualified and experienced teachers in institutes of education specially in rural areas. This paper present study of online education and virtual class room solutions, Case study of Symbiosis Online Education system is discussed. The issues arose in implementation of E Vani existing solutions and approaches are presented. In addition, the emerging technologies and research scope of On Line Education and Virtual Class Room solutions and educational how data mining can make On Line teaching (E Vani) effective and efficient is discussed.

Keywords: Virtual classes, Online education, Distance education.

Introduction

Educational institutions are experiencing a fundamental shift with online learning in mode of teaching and learning and collaboration, both within the institution and across institutions. Technology enabled learning changed the way enabling educational institutions to addresses remote areas through digital means of online education and virtual collaboration. Online learning has opened up the opportunity for many people to educate themselves, learn new skills, and earn college degrees even if they are not able to attend classes in a traditional sense.

In this paper, we discuss the online educational environment. Emerging online technologies. Explore how institutions may take advantage of it in terms of efficiency, reliability, portability and flexibility. We present studies for online educational platforms. We also discuss future challenges associated with online education and how data mining and learning analytics can improve the system an open issue for research.

Online Learning: Online-learning is a result by the internet revolution[1]. This allows users to gather knowledge and education from distance synchronously and asynchronously. It especially benefit students who live long distances from the on-site campus and/or have busy lives and other responsibilities (family, professional).

Online education is enabling educational institutions to addresses lack of highly qualified and experienced teachers in institutes of education specially rural area through online education and Virtual collaboration.

Student empowerment through online learning in a number of ways[2]. i. Easy access to course ware whenever and wherever they are comfortable with. This flexibility allows students to learn in a way they like. ii. They are can make choices language they want to explore content. iii. Accommodating to different learning styles, a learner can watch a video lecture if they prefer visual learning or can listen audio or can read if they want. iv. Online learning also provide students student and student teacher interaction online. This interaction open up wide sources of knowledge. v. By saving the time taken away from one place to other, travel costs and remove printed materials cost. Online learning helps to save money and time and also increase productivity.

Case Study

Symbiosis Distance Learning and Skill Development Institute (SDLSI): The Symbiosis Distance Learning and Skill development Institute (SDLSI) is a distance education and training provider.

It has a online interaction facility, E-facilitation, language labs and smart classrooms, digital library and language lab. All nodes are interconnected through a VPN. Symbiosis Distance Learning and skill development Institute offers blended learning. These solutions has helped Symbiosis Distance Learning and skill development Institute to achieve academic and operational excellence. Improving support services and the evaluation process. To manage sudden growth in intake, the institute faced many challenges. In a sensible approach SDLSI management decided to adopt cost-effective ICT enabled services and solutions.

Student Information Management System (SIMS): SDLSI developed SIMS. SIMS is Student Caring ICT based fully automated system. It has two parts, Call Centre and E

Facilitation Centre. One can tracks complete student details. Student can access their data through the website. The SIMS forms a spinal cord for the smooth working of SDLSI.

Gateway to Virtual Campus: The SDLSI provides a completely personalized website which act as gateway to SDLSI. Students can access online services through this gateway from anywhere. Separate window for visitors is also part of SDLSI portal . They can find their application status without making a telephone call or visiting campus.

E-Facilitation Centre: To handle thousands of letter was very cumbersome. To keep their record and timely and correctly respond to them was becoming very hectic resulting in increase in grivences. A separate interface called Easy Post my Query was introduced. This interface is a part of the SDLSI portal, allowing students to select a query - menu. Resulting in auto filtering and auto posting to concern department. Resulting in timely prompt and correct response.

Individual and Group Email Account.
Batch wise group mail account are created. Separate accounts also provided.

Virtual Drive: Students can easily access to learning content, presentations projects through virtual drive created on Sky Drive anywhere anytime.

Asynchronous learning resources: SDLSI introduced online as well as offline resources.

E-learning: SDLSI has created more than 120 E-learning courses of very high standard.

Online Evaluation: SDLSI introduced a sophisticated assignments engine which holds different test paper for each attempt. Academicians continuously develop good quality objective questions using full power of internet resources.

On-demand exam: SDLSI introduced on-demand-online exam The portal provides an online examination slot booking. The on-demand-online has made easy to conduct hundreds of exam smoothly and efficiently.

SDLSI has exploited ICT right in time to address various issues. The outcomes of this approache and solutions have provided solution and satisfaction including: i. Feel good among students. ii. Drop-out rate reduced. iii. Tracking of academics, fees and administration related.

data become accurate and efficient. i. Accurate SMIS reports to readily available. ii. System become robust and scalable. iii. Self-paced learning provided flexibility to students. iv. Costs to institute have been reduced. v. Handling student intake overflow was achieved effectively.

Therefore, it lesson can be learn from SDLSI's case that the use of ICT in education has proven effective in improving the quality and delivery of distance education.

E Vani Using A VIEW Director Technical Education launched project E Vani to organize distant education classes from S V Polytechnic. A View: A-VIEW is an internet based virtual knowledge sharing platform. It enables distance education using various communication modules like Audio/ Video, Whiteboard collaboration, to them. To promote online education Ministry of Human Resource Development (MHRD) under the Indian Government's National Mission for Education using information and communication Technology (NME-ICT) funded E-Learning Research Labs, Amrita University, Kollam. Amrita research lab developed A-View.

Major Issue: Issues and challenges have emerged during implementation of E VANI in first year.

Availability of the virtual classroom solution. It was difficult to customize the features of the classroom to suit the context of implementation. In time, all participants expressed their disappointment with the virtual classroom solution. Bandwidth stability and reliability. Disconnections from the virtual classroom were experienced throughout the project, which were attributed to insufficient bandwidth availability. Due to the inherent characteristics of ADSL, 2 MB was not always guaranteed, and the bandwidth sometimes dropped as low as 128 b/s. As correctly observed by many college level coordinators these fluctuation in bandwidth often render an application unusable due to intolerable delays that result from bandwidth demands of multimedia data.

Students attendance and motivation. In the starting students were highly motivated at first and class attendance was good, although one or two students would arrive up to ten minutes late. High attendance in the first course might be attributed to the fact that students were still getting used to learning in a virtual environment. Students were very enthusiastic, and were especially looking forward to completing the course. As the project progressed, however, at least twenty percent of the students completely dropped out of the course and were no longer attending the discussion sessions with the lecturers, inability to cope with the stress and timings. User level of tolerance. Initially, students and lecturers were patient when the virtual classroom solution did not work. After some time, however, user level of tolerance of technical issues had decreased to such an extent that if the virtual classroom solution did not connect at the first attempt, both the students and the lecturer would suggest postponing the class session to another time. Teachers' competencies and their knowledge on how to class via the internet Insufficient funds for implementation .Proper preparation and planning may address many issues. To ensure success in next session implementations, it is crucial to ascertain that all stakeholders know the purpose of the partnership and that their motivations and expectations of the

partnership are articulated. As such, it is essential that a solid foundation for next stage projects is lad during the preparatory stages. A architecture like Symbiosis could be adopted.

Proposed Solutions and Architecture for Implementation of E-Vani

Gate Way to E Vani: Dedicated website/portal can act as gateway .Through this Gate way anybody may enter virtual campus any time. And Get all sorts of information around the clock.

Student support services: The student support system interface which is part of portal provide support for all student activities from admission, enrolment, fees deposition, Marks sheet , studentship certificate Transfer certificate etc.

LMS[3]: The spinal cord for designing online courses Provide effective communication learner and instructor. Platform for serve notes, Assignments, feedback etc. Moodle[4] is an open source LMS to suit the requirements.

Learning Resources: In VLE courseware must be made available to 24/7 and at any place.

Administration support: An efficient system that handle can student grievances. Bring student satisfaction as well as reduce overheads.

Synchronous teaching aids[5]**:** The technology should be selected based on the needs and objectives of programs. It must be user friendly, reliable, accessible and affordable. Instructors may be tempted to utilize the most high tech technology The technology selected should be the one that best delivers the course material and lecture. Successful use of technology is determined by its ease of use. Technology is a means to deliver the education, and for successful teaching to occur, the technology must be as seamless as possible. The technology used to deliver instruction must accommodate the lowest common denominator in the class.

Training should be given to all teachers along with incentive NMEICT is working to leverage the potential of ICT to provide high quality, personalized and interactive knowledge modules over the internet/intranet for all the learners in Higher Education Institutions in an any time any where mode. This should be adopted for Teachers training.

It is also important to choose virtual classroom solution that is usable within the context of implementation. Comprehensive testing of system is critical before project commencement.

Conclusion

Online Education is not merely the delivery of lectures and materials. It is important to have envision the field is moving. Current studies focus on pedagogical and technological possibilities. Blended learning integration long term planning and preparation. continually Development of online teaching platform is a long-term process. This need holistic planning. Supported by latest information. Group of Experts that will visualize pedagogy, quality teaching , affordability, existing infrastructure and resources. A vision with clear objectives and strategies. Integration of data mining to construct close loop control system for self improvement. Then only quality of E-VANI would be superior over conventional teaching and become best virtual platform in country.

Recommendations for further Research: Follow-up research might focus on aspects that the need to address to improve virtual education platform that lead to online-learning success. Research in the data mining algorithms/EDM to develop feedback system constantly improve in close control loop fashion.

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