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Management of distribution of course content, assignments and project for pre-service students using Moodle open source

Abstract

I was part of the teacher educators selected from Chhattisgarh to attend a three-month long course in Arizona State University. During my work there, I developed a proposal related to my work in Chhattisgarh. The details of the proposed project and the work done are described in the article.

Introduction

Once RTE 2009 came into effect, it became incumbent upon various states to train its in-service teachers in order to fulfil its conditions. Chhattisgarh was one of the states with a large number of untrained teachers. The state devised a diploma in teacher education program in the distance mode in order to train their teachers without withdrawing them from the schools. One component of the diploma program was to design and distribute regular assignments to the participants of the open and distance learning program. The purpose of my educational reform project was to standardize the distribution of assignment and project by faculty members of D.Ed. and B.Ed. colleges. This reform project will create a database of assignments and projects for the continuous enhancement of the quality of assignment and project done by the pre-service students. This project will also keep record of all the assignments and projects submitted by the students online.

Initially it was decided that the project would be piloted in 03 DIETs, 01 CTE, 01 IASE, 03 Private D.Ed. Colleges and 03 Private B.Ed. Colleges.If the proposal is successful, we propose to drop the traditional method of project distribution and replace it by the online method.

The indirect benefit of the project would be familiarize the in-service teachers to ICT activities for learning and professional development.

Rationale

There is a need for an integrated monitoring system for different Teacher Education Institutions as stated in Teacher Education Planning Handbook 2014-2015 of Centrally Sponsored Scheme of Teacher Education, 2012 which says:

Technology in Teacher Education is to be actively integrated in all TE institutions. Satellite transmission communication, content development, MIS, interactive and self-paced learning should be the focus areas for bridging the divide digitally (Teacher Education Planning Handbook, 2014-2015 Page 4).

It also advocates setting up a resource centre in all TEIs. My reform proposal will partly fulfill the resource center requirement. Use of resource center and educational technologies needs to be integrated within the curriculum. Instead of providing a separate course on teaching applications for editing texts or spreadsheets, students could be exposed to pedagogical applications like Geo-Gebra (Mathematics) and Marble (Geography). Such applications are not proprietary, being maintained by a community of like-minded professionals (open source) and require no additional funding. Also, student teachers could be encouraged to prepare documents digitally which could be used for formative and summative assessments.

Basic knowledge of Internet and web based tools and resources including of cybersecurity – avoiding dangers and risks as well as basic website and web tools use (for creating and

maintaining institutional resource portals etc.) is required for teacher educators. This is especially required as they are expected to use the Moodle software.

Moodle is a public software, the course has freely customized it for its own specific requirements. Similar programs need to be offered by DIETs to teachers which can allow learners to learn at their own pace (relatively) and also reach a larger number of teachers than is possible through purely physical interactions (CSS Guidelines 2012, Page 80).

It is very difficult to track the record of assignments and projects of students in order to assess the quality of students work. Using traditional method (Hard Copy) is very difficult to manage but if we use ICT it will be easier to manage the system. As ICT facility is available everywhere in the state, and from our previous experience of online Registration of Diploma in Education (Open Distance Learning Mode) where 40000 elementary teachers were registered, internet is now widely used.

Objectives

i. To standardize the system of course content, assignment and project distribution among pre-service students.

ii. To create a database of pre-service students and faculty members.

iii. To monitor the academic activities of teacher training institutes, this will make them responsible and accountable towards regular assignment distribution and grading them.

iv. To create a database of assignments and projects of pre-service curriculum.

v. To enhance the academic quality of pre-service students.

vi. To make available widely accessible digital resource repositories from government and NGOs with local contextual comments.

vii. Piloting use of Moodle system for In-service training course dissemination.

Educational Reform

"The tremendous effectiveness of the computer and computing technology in shaping modern society has created the need for an educated public that can utilize such technology most effectively for the betterment of society and humankind. There is, therefore, a growing realization of the need to have a place for these domains of knowledge in the school curriculum.

A distinction must be made between the Information Technology (IT) curriculum, which involves the use and application of tools of the information and computer age, and the Computer Science (CS) curriculum, which is concerned with how these tools are designed and deployed. Both of these have their place in school education." (NCF 2005 Page 45-46)

The reform proposal consists of implementing a Learning Management System using Moodle. ***Moodle*** is a learning platform designed to provide educators, administrators and learners with a single robust, secure and integrated system to create personalized learning environments.It is a highly flexible, free software, open source learning platform. With comprehensive, customizable and secure learning management features, it can be used to create a private website for dynamic online courses.

All cognitive functions originate in and must be explained as products of social interactions. Learning is not simply the assimilation and accommodation of new knowledge by learners; it is the process by which learners are integrated into a knowledge community. (Vygotsky, 1997)

Moodle was originally developed by Martin Dougiamas to help educators create online courses with a focus on interaction and collaborative construction of content, and is in continual evolution. Features provided by Moodle are avenues for social interaction, a participant's page with space for profile picture, a central location wherein formation about all participants can be seen, providing a way to see everyone in the course who is logged in and therefore might be available for synchronous communication. There are communication tools as well such as emails notifications, blogs, instant messaging, etc. lastly, there are course delivery tools to which instructors have access. Instructors can change permissions for individual students or groups of students forsingle activity or for the whole course.It allows spontaneous formation of groups and assignmentof a student as the group leader with instructor-like permissions for just a particular section of a course.

Implementation of plan

My reform will create website "reformcg. reformindia.net". In this website Moodle (Learning Management System) will be installed by me. Registration of pre-service students and faculty on Moodle website will be done using the data available with SCERT during counselling (Online admission process).

All the assignments and projects given to pre-service students in 2013-14 and 2014-15 session and list of references of textbooks/reference books will be collected from teacher training institutes. These assignments, projects, list of reference materials and textbooks will be discussed with State Resource Group (subject wise) in 3 workshop for the finalization and to be disseminated through Moodle. Common assignments/projects will be distributed at state level rest will be left on the teachers at respective teacher training institutes.

As per Govt. of India Guideline student-teachers need to integrate ICTs into their subject teaching-learning, using varied digital methods to createlearning resources, using public educational software applications, such as

(i) Maths – Geogebra, Bruch, K Turtle, carMetal

(ii) Languages - SCIM (multi-language typing), K Hangman etc. (language), KAnagram, K Letters

(iii) Science – K Stars, Stellarium etc. (astronomy), Kalzium, STEP, PHET etc.

(iv) Social Science - Marble (geography), KGeography, OpenMaps

(v) Other subjects - Freemind (creative thinking) for creating concept maps

(vi) Web tools like wiki, blogs

(vii) Digital tools like video camera and video/ photo/audio software applications including record mydesktop, Kdenlive, Audacity etc. as well as CBTs such as spokentutorials (www.Spoken-Tutorial .org)" (CSS Guideline page 81.)

A meeting with pre-service students, faculty members and administrators of teacher training institutes will be conducted for the implementation of this project where they will be briefed about the benefit of the project, their role in project. They will be explained how academic achievement may be enhanced using this project. Their concerns about the project will be addressed.

Appropriate training needs to be provided to the faculty in useof such applicationsbefore they can be integrated into the curriculum. DIETs can contribute to building acadre of teachers with computer competence throughorganizing regularworkshops on Educational Technology. Information and CommunicationsTechnology including TV, radio, telephony and internet are useful resourcesthat provide access to ideas and enable wider dissemination of information. Distance media can effectively be used to keep teachers connected with professionals in academic and applied disciplines. Rather thanbeing thework of an education technology wing, technology needs to become anintegral part ofthe knowledge and practice of all teacher educators.

The different stakeholders such as the educational institutes, students will need to be oriented towards the project. The cost of technology and website hosting expenses are low and can easily be borne by the institute personal level for the success of the project.

The key partners in my reform proposal includes the SCERT, a state resource group and district resource groups. Subject wise excellence centers have been established by ICICIFIG (ICICI Foundation for Inclusive Growth) in different DIETs and can be tapped.

i. For first year, to implement the reform project a budget of Rs. 50000 is required and the expenditure can be done from B.Ed. Fund available at SCERT C.G.

ii. After first year, to roll out the reform project for 16 DIETs, 02 BTI, 29 Private D.Ed. Colleges and 130 B.Ed. colleges (Total of 16000 Pre-Service students) one full time programmer, one assistant programmer and 02 Data Entry operators will be required. The technical persons will be hired through central government agency NICSI. The expenses for the Man power will be as per

the NICSI norms. Approximate cost per year would be Rs. 9.00Lakhs. Per Student cost will be Rs. 56.25. The expenses of Rs. 9.00Lakhs can be done from the balance amount collected from pre-service students for counselling (Admission Process). There will be no financial burden to state government or central government.

The project initially will be implemented in 3 DIETs and similar number of private TEIs. We will try to involve the faculty members in content generation. Roughly 500 students will be part of this phase.

Conclusion

As mentioned earlier, for the implementation of my project I will register a domain name "reformindia.net". Under this domain I will create a website "reformcg.reformindia.net". For admission to Diploma in Education and Bachelor in Education candidates have to appear in entrance test examination conducted by Professional Examination Board of Chhattisgarh. The admission to college are done based on the ranks achieved by the candidates and preference they opt for colleges. The above admission data is available with SCERT. I will use the admission data to create login Id/ Password for the student teachers. Orientation of student teacher and faculty members will be done so that they can understand the Moodle software and reform proposal. I will consult the faculty members for the assignment and projects distribution to the candidates so that it can be distributed through Moodle and responses of student teacher can be uploaded by the student teachers.The sample course on mathematics is developed with the help of State Resource Persons is completed and available at http://moodleskt.reformindia.net/ with sample username – **director** and password **director**

To communicate to the student teachers I will use SMS (Text Messages) facility provided by the National Informatics Center, Government of India. Using SMS (Text Messages) I will give instructions, ideas, guidelines to the student teachers. Data analysis will be done on the responses received in the website. There are various reports available with Moodle software. All related reports will be analyzed in consultation with student teachers, faculty members and administrators.After first year before rolling out to all teacher training institutions extensive discussions, workshop will be organized.

Various forums are available in internet but there is a need for the contextualized forum for the teacher educators of Chhattisgarh; my reform proposal is an effort in this direction to create a contextualized forum for the teacher educators of Chhattisgarh using Moodle.

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