

# CPECAEE: Collaboration Platform for Extra Curricular Activities in the E-learning Environment

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**Abstract**—Virtual university of Pakistan is the first E-learning University in the country which is working in more than hundred cities of Pakistan and providing quality education to more than 60,000 students. Currently the university is using a learning management system named as Virtual University Learning Management Systems VULMS, which is providing a collaboration platform to the teachers and students for curricular activities. Using the current platform the teacher can create and manage course contents, and grade assignments and quizzes. Discussion board of VULMS provides the collaboration platform to the students on specified lectures of the courses. This platform (VULMS) does not provide any facility for extra-curricular activities. We will use a tool for extra curricular activities and gather the data to show how extra-curricular activities can enhance the growth of students. Extra curricular activities help in improving the mental health of the students. The tutor manages student interaction in these activities. Integration of this tool is proposed for the better collaboration of students in the e-learning environment for their professional and personnel development.

**Keywords**– e-Learning, Collaboration Platform, Extra Curricular Activities and Learning Management System

## I. INTRODUCTION

Virtual University of Pakistan is putting good efforts to promote online education in Pakistan. Curriculum design and methods of teaching are good. Online education has the deficiency of face to face interaction between teachers and students and even among the students. Extra curricular activities are a good way to keep the students and teacher motivated and in contact to fill the gap of interaction of this interaction. The graduates of the Virtual University lack the confidence of presentation and interaction with others due to the lack of practice and less interaction. The focus of this research is to emphasize the need of extra curricular activities along with curricular activities and also by keeping the record of these activities performed.

Education is no doubt necessary for the professional growth of the students as well as the extra curricular activities have a vital role in the mental and physical growth and development of the individuals [5]. Good health and mental state defines the personality on which different types of actions and decisions an individual takes for the progress of his life in all the fields and aspects of life. Extra curricular activities are being conducted in one way or the other but these are not being recorded and managed in a proper way. The purpose of

this research is to keep record of these activities so that the achievements of individuals or teams should be maintained [1]. Collaboration is a broader term used in education as well as in computer based learning and both have different ways of implementation but the objective is same [4].

An organized committee will ensure the participants' involvement for performing some activities using the collaboration platform. The committee can group participants in a structural or hierarchical fashion.

A teacher may guide the students to increase their participation so that the collaboration can be effective for the participants. Every participant will have a special symbol to identify his/her working experience under each concept/technique (e.g., Mr. Kaleem came with a new idea and shared it on the collaborative platform). Whenever he updates his work under the same group of that activity he will increase the level of his participation. Teacher will organize these participations under the each research or extra-curricular activity group and will make a chair person to guide others for the same activity.

$$E = \sum_{i=1}^n P_i \quad (1)$$

'E' is the experience and 'P' is the participation of the student in the group who is performing some activities.

## II. LITERATURE SURVEY

Continuous learning for the employee of any organization is also very important in order to face new challenges and requirements of the competitive market. This is the era of information technology which is playing a major role in e-learning [7].

E-learning system helps the employees working in collaborative environment to share their knowledge and learn new techniques. For the traditional training of the employees we need extra cost, time and space whereas an e-learning system reduces cost and time [10]. Also there is no need to arrange for extra space, E-learning increases the employees' performance as they get timely training and complete their tasks on time.

(Hsien-Jung, 2007) proposed a structure in which five modules of dynamically configuring learning objects are used. Based on individual requirements an interactive mode of learning material is presented. In this way employees get

personalized information which increases their learning capabilities [2].

(Coccoli, 2011) done a project related to collaboration activities for software engineering students. Science is learnt through experiments and for software development or engineering these are conducted on the machines equipped with appropriate software. They have proposed the open source style collaboration in the universities so that every willing student can put the efforts to learn practical and working methodology related to the software development.

The invention of internet and World Wide Web has introduced a new way of collaboration between academia and industry [7] but the change of this type of collaboration is too fast e.g. the evolution of computer programming language. This change is required depending on the requirements.

The requirements can be analyzed when the industry is involved with universities so that student can be taught too dynamic contents that they can absorb the future change in the techniques of software development as well as the needs of the change [8].

T shape education is the outcome of collaborative learning. This model more suggests the collaboration with individuals all over the world regardless of the geographical boundaries. This type of collaboration is not only enhances the learning outcome as well as the sharing of knowledge and experiences [4].

**III. PROPOSED INTEGRATION MODEL**

The tool for extra-curricular activities is used independently of the learning management system and results are extracted. We propose the integration of this tool with learning management system (LMS) with bi-directional data flow of the activities of the students and teachers and their database records to authenticate and validate [Fig.1]. The integration of this tool will increase the productivity of the students as well as the abilities. Personality growth is also an important aspect. Students studying in the e-learning environment lack the confidence and presentation skills. So through the extra-curricular activities management system their skills of communications will be polished and this gap can also be filled [9]. Extra-curricular activities like Speech competitions, group singing, creative writing, poetry competitions and guest talk will enhance the presentation skills of the students in e-learning mode. Events management, youth festivals, sports competitions and drama competitions will help to gain management skills for management students. Online games and online clubs will help them to use and management online activities.

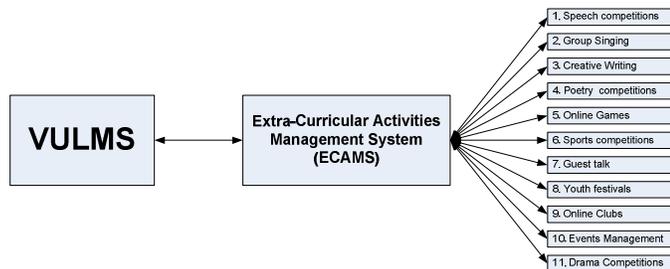


Fig. 1. Model for Integration and interaction between VULMS and ECAMS

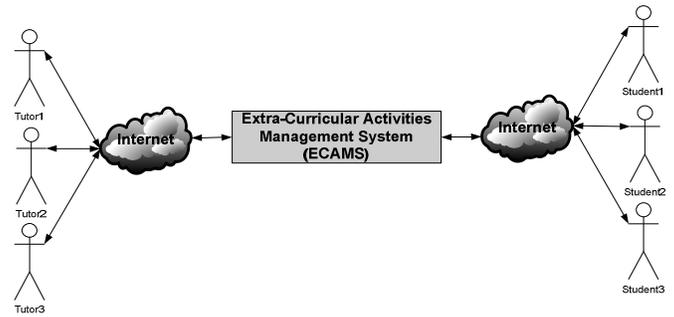


Fig. 2. Architecture of the ECAMS

**IV. ARCHITECTURE OF THE ECAMS**

Extra-Curricular Activities Management System (ECAMS) is an online system for the students’ extracurricular activities. The ECAMS provides eleven different types of activities which are shown in the fig.1. Students interact with the system and perform these activities. In this system the teachers will be playing the role of managing the activities of the students.

**V. CASE STUDY 1**

We conducted a study with 200 students who was the student of software engineering-1. These all students are in the 5<sup>th</sup> semester. This tool was independently tested. The extra curricular activities was provided by the tool are used by the students. The instructor of the course managed the activities of the students. This tool was used by the students for 15 days. The results shows that the student used this tool spent more time on VULMS and their creativity was increased. The extra curricular activities increase their interaction with the other students and with the instructor as well. Their participation also affected their results.

The students were asked to use the tool. The number of visits of the student to each activity is measured. And their participation to overall extra curricular activities is considered.

Table 1: Students’ participations

Actions performed by the students	Percentage
Extra curricular visits	70
Non-visits of students	30
Frequent visits	60
Once visited	30
Occasionally visited	10

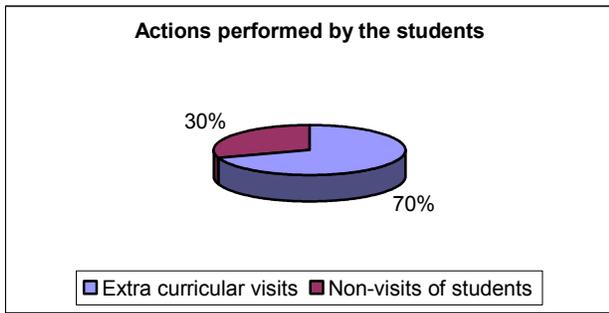


Fig. 3. Students' interaction ratio - 1

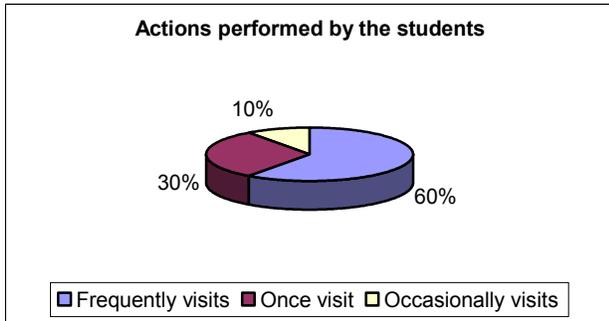


Fig. 4. Students' interaction ratio - 2

**VI. CASE STUDY 2**

The second study was conducted within the faculty members of the University. This was a creative writing competition by presenting the stories which was conducted among employees of Virtual University of Pakistan. This study was conducted without CPECAEE and through email. The results of this study is shown in the below table 2. The problems reported by the English department were the collection of the stories, responding individual via email which was taking time and then processing and sending them the feedback about the writings. The results extracted are without CPECAEE and they are increased by using it.

Table 2: Faculties' participations

Ranking of writers	Percentage
Very Good	20
Good	20
Average	60

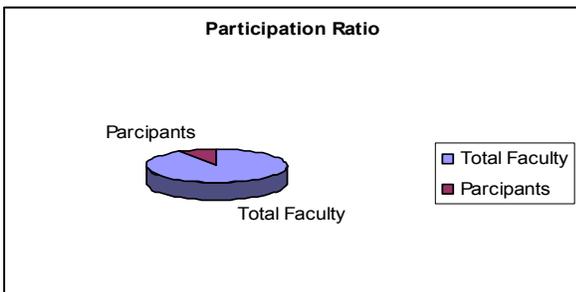


Fig. 5. Faculty Participation ratio

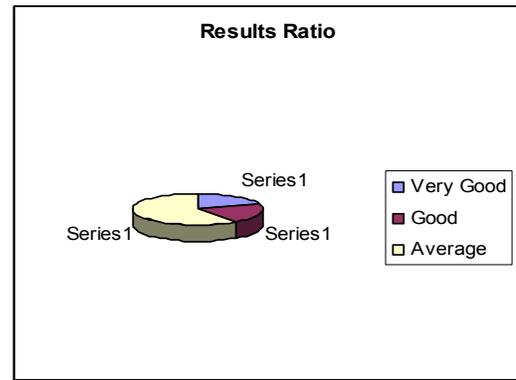


Fig. 6. Faculty Results ratio

**VII. CONCLUSION AND FUTURE WORK**

The results show that most of the students likes to visit on extra curricular activities and shows the interest in these activities and their performance is also increased. The deficiency of the presentation skills and management of personal and personnel task in the students are also reduced up to a certain level. We will integrate this tool with LMS according to the proposed integration model to increase the productivity of the students.

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