ENGINEERING COLLEGE STUDENTS' UTILIZATION OF OPEN SOURCE LEARNING MANAGEMENT SYSTEMS: A SURVEY

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Abstract
   *Paavai College of Engineering has executed e-learning tools and this has been completed by integration of open source based e-learning platform. Moodle is a software package for producing internet-based courses and websites. It is a Learning Management System (LMS) that permits well collaboration amongst learners, students and teachers. A **learning management systems** awareness, types of E-resources and purpose of using open source LMS software (MOODLE) of survey was sent through each Engineering department mail list for the under graduate students. The researcher has found in this paper that mostly engineering students access the OSLMS for the purpose of downloading Course Material and Preparation for Assignments or class room study. **Maximum number of students** strongly felt that they have no difficulty in using Moodle site.*
   Keywords: Moodle, LMS, CLM, OSS, E-Resource, PCE and Engineering College

Introduction

   The conditions of free of charge software and open-source software are occasionally used interchangeably in the thought of software so as to circulate and download the process of starting the Internet without fee. On the other hand, the open source software association has a detailed description of free of charge software. Open source software is not free, as free in the financial wisdom, but customer of the software must have the independence to run, change, familiarize you, make specially and share free of charge. The idea of free of charge in this conversation is the most excellent and well acknowledged one, (Free Software Foundation, 2005).

Moodle E-Learning Software

The statement Moodle was the first short form for Modular Object-Oriented Dynamic Learning Environment, which is regularly helpful to programmers and tutoring theorists. It is a free, open source Course Management System (CMS) that is at present used by many Universities, Engineering and Medical, Arts & Science colleges, schools, companies, Special Education sectors and personal coach. Time-tested and frequently improving, this software suggests a flexible online background to educators at each and every step to profile keenly on an important and learner-friendly background. It is the management that maintains with the purpose of the software which is an ongoing growth scheme premeditated to upkeep a communal constructionist structure of education. It's in addition, a verb to facilitate, explain the method of idly roundabout from the beginning to the end, amazing, responsibility effects as it suggests itself to you to do them an agreeable tinkering that time and again show the way to just around the corner and creativeness. It applies equally to the technique Moodle that was developed and to the way a teacher or a student power come within the reach of teaching or learning online classes. Any person who uses Moodle is a Moodler.

Environment

The function of ICTs is now changing the institute and freedom of learning/teaching satisfaction in higher learning institutions. The academic and socio-economic services with the purpose to have motivated such organization to implement and incorporate ICTs in learning and teaching comprise a lot of reasons such as, better information right of entry; better announcement; synchronous and asynchronous knowledge; improved collaboration and teamwork, cost-effectiveness and academic development. Presently there are a lot of members who are utilizing *virtual learning environment (*VLE) schemes, together marketable and Open Source Software (OSS). One such method to facilitate is step by step in advance, universally recognized and is well-known as Moodle. The College decides Moodle as its subsequent LMS for the reason that the software is based on the bigger group of people who gave the college a benefit to reach its objectives.

Objectives

The foremost objective of this revision is to investigate the prospective of education on e-learning platforms used in Paavai College of engineering

The specific objectives were:

- To find out the level of LMS awareness and use by UG students.
- To identify the types of e- resource available in your institution through LMS
- To investigate the types of the importance of feature in a LMS.
- To identify the frequency of use in LMS.
- To find out the purpose of use of LMS.

Methodology

The studies take on an investigation research design. Using a stratified random variety method, the questionnaires were distributed among the undergraduate students. Additionally, three discussions with information professional were carried out for the purpose of triangulation as well as getting in-depth information from respondents which could result from direct interactions and questioning. Among the interviewees, one was an ICT professional from the Information Technology and Computer Science Departments and the second one was a librarian and the third one was one of the faculties in the college. The reason behind selecting these three people was that they are central in the Moodle implementation process. For example, the ICT department is responsible for managing the Moodle software; the librarian is the one who provides information and the lecturer interacts with the students and provides teaching materials to them. The data collection was carried out from November 2015 to January 2016. Data have been collected after the data was combined; it was analyzed using SPSS 16.0 version. Total 1817 students are respondent out of 2091 Students in Paavai Colleges of Engineering.
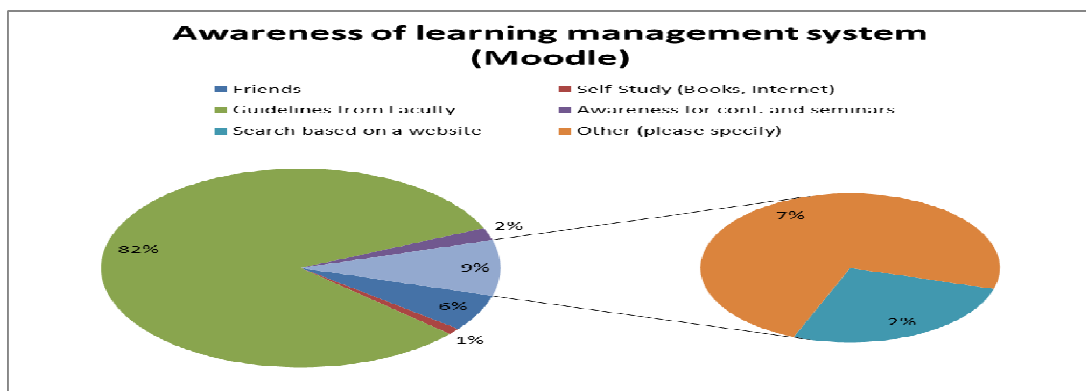

Figure 1. Awareness of learning management system (Moodle)

The above table reveals the gender wise distribution of engineering students. Majority of the respondents are male with 84.31 percent, remaining 15.69 percent of the respondents are females. **Highest 82 percent of the respondents felt that guideline from the members gave to awareness and then 19 percent of students told that they were give awareness by the Librarian**

Table 1 Using Learning Management System (Moodle)

Moodle Software	I Years	%	II Years	%	III Years	%	IV Years	%	Total	%
Never use	26	1.43	22	1.21	0	0.00	0	0	48	2.64
Occasionally or Sometimes	169	9.30	142	7.82	96	5.28	175	9.63	582	32.03

Almost every time	219	12.05	130	7.15	123	6.77	131	7.21	603	33.19
Frequently use	142	7.82	136	7.48	159	8.75	147	8.09	584	32.14
Over all	556	30.60	430	23.67	378	20.80	453	24.93	1817	100.00

%- Percentage

The above the table clearly indicates various departments engineering students who enthusiastically participated Out of 1817 students, **most** 33.19 percent **of the students felt that almost every time using** Moodle software is very beneficial to them, 32.14 percent of the students felt that they should frequently use the learning management system (Moodle), on the other hand 32.03 percent of students felt that occasionally or sometimes and finally limited number of students never use learning management system (Moodle).

Table 2 Year wise Gender and Department

Dept.	Male	%	Female	%	Total	%
Electronic communication Engineering	591	32.53	124	6.82	715	39.35
Electrical and Electronic Engineering	203	11.17	19	1.05	222	12.22
Computer Science Engineering	167	9.19	96	5.28	263	14.47
Information Technology	44	2.42	28	1.54	72	3.96
Mechanical Engineering	351	19.32	0	0.00	351	19.32
Auto Mobile Engineering	133	7.32	0	0.00	133	7.32
Civil Engineering	54	2.97	7	0.39	61	3.36
Over all	1543	84.92	274	15.08	1817	100.00

%- Percentage

It is discrete from the above indicated table that the highest 39.3 percent of respondents are Electronic communication Engineering students, which is followed by 19.32 percent of respondents who are Mechanical Engineering students 14.47 percent of respondents are Computer Science Engineering students 12.22 percent of respondents are Electrical and Electronic Engineering students, 7.32 percent of respondents are Auto Mobile Engineering students, 3.96 percent of respondents are IT students and 3.36 percent of respondents are Civil Engineering students.
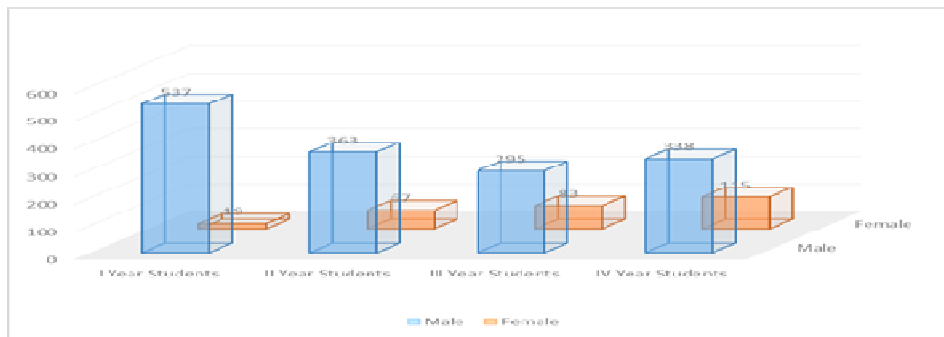
Figure 2 Gender and Year wise

Figure 2. records discovered on year wise among the respondents in the surveyed engineering college shows that the majority 30.60 percent of the respondents are first year engineering students, which is followed by 24.93 percent of the respondents are fourth year engineering students, it is followed by 23.67 percent of the respondents are second year engineering students and 20.80 percent of the respondents are third year engineering students.

Table 3 Typed of E- Resource available college (Moodle LMS)

Opinion	SA %	A%	N %	D %	SD%
Course Material	1584 (89.54)	172 (9.72)	13 (0.73)	0 (0.00)	0 (0.00)
Images	1127 (63.71)	579 (32.73)	33 (1.87)	21 (1.19)	9 (0.51)
Videos	432 (24.42)	667 (37.70)	376 (21.25)	176 (9.95)	118 (6.67)
Curriculum	1102 (62.30)	559 (31.60)	108 (6.11)	0 (0.00)	0 (0.00)
Subject wise materials	989 (55.91)	567 (32.05)	159 (8.99)	36 (2.04)	18 (1.02)
Online event news and broadcast	489 (27.64)	793 (44.83)	348 (19.67)	105 (5.94)	34 (1.92)
Online Quizzes and Exams	538 (30.41)	692 (39.12)	264 (14.92)	189 (10.68)	86 (4.86)
Discussion online forum	371 (20.97)	345 (19.50)	517 (29.23)	297 (16.79)	239 (13.51)

SA-Strongly Agree, A- Agree, N-Neutral, D-Disagree, SD-Strongly Disagree,
%- Percentage

The above table clearly indicates that various e-resources are available in the college. Out of 100 percent, highest 89.54 and 63.71 percent of the respondents strongly agreed on the course material and images, 37.70 percent of the respondents agreed on the videos, 62.30 and 55.91 percent of the respondents strongly agreed on the Curriculum and Subject wise materials, 44.83 and 39.12 percent of the respondents

agreed Online event news and broadcast and Online Quizzes and Exams and 29.23 percent of the respondents were neutral on Discussion online forum.

Table 4 Frequency of using learning management system in Moodle

Frequency	Male	%	Female	%	Total	%
Rarely	211	11.93	47	2.66	258	14.58
Occasionally	184	10.40	12	0.68	196	11.08
Sometimes	336	18.99	41	2.32	377	21.31
Frequently	364	20.58	30	1.70	394	22.27
Usually	237	13.40	53	3.00	290	16.39
Every time	175	9.89	79	4.47	254	14.36
Over all	1507	85.19	262	14.81	1769	100.00

The above table specifies the frequent use of learning management system in Moodle. Out of 1769 Engineering students, 22.27 percent of the respondents felt that they should frequently use learning management system in Moodle subsequently 21.31 percent of the respondent sometimes use Moodle Software, 16.39 percent of the respondents felt that usually they should use in Moodle Software, 14.36 percent of the respondents believed in every time using in Moodle Software and 14.58 percent of the respondents felt in rarely using learning management system in Moodle and finally 11.08 percent of the respondents felt in occasionally using above the software.

Table 5. Purpose of using to learning management system

Purpose	I Year	II Year	III Year	IV Year	Total
Related to Examination	16 (0.88%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	16 (0.88%)
Discuss online forum	13 (0.72%)	7 (0.39%)	2 (0.11%)	0 (0.00%)	22 (1.21%)
Preparation for Assignments/ class room study	179 (9.85%)	142 (7.82%)	96 (5.28%)	175 (9.63%)	592 (32.58%)
Course Material download	216 (11.89%)	175 (9.63%)	123 (6.77%)	131 (7.21%)	645 (35.50%)
Videos download	132 (7.26%)	106 (5.83%)	157 (8.64%)	147 (8.09%)	542 (29.83%)
Over all	556 (30.60%)	430 (23.67%)	378 (20.80%)	453 (24.93%)	1817 (100.00%)

The above table shows the results of the purpose and year wise analysis of engineering students use of learning management system. While 35.50 percent of respondents felt that the course material could be downloaded, 32.58 percent of respondents felt that it is useful to the preparation of assignments/ class room study through LMS site, 29.83 percent of respondents felt that could be videos could be

downloaded in LMS site, less than two percent of the respondents felt that they could discuss on online forum and below one percent of the respondents felt that it could be related to Examination.

The table.5 describes that maximum 42.85 percent and 30.86 percent number of the students felt that they strongly agree that they have no difficulty in using Moodle site, 54.21 percent of the students manipulated that they strongly disagree that they have difficulty in using course lecture files, notes, handouts, and supplemental materials, 29.51 percent of the students disagreed that they have difficulty in the of usage of Multimedia content (e.g., recorded Lectures, video clips, YouTube), 27.19 percent of the students strongly agreed that they have difficulty in the of usage of Online Quizzes and Exams, 36.91 percent of the students disagreed that they have difficulty in the usage of Communication tools (e-mail, Messages, discussion forums, blogs), 32.67 percent of the students strongly agreed that they have difficulty in the usage of Online synchronous communication tools (chat rooms, instant messenger features), 22.22 percent of the students strongly agreed and disagreed that they have difficulty in the usage of Online collaboration and group work, 41.78 percent of the students strongly agreed that they have difficulty in the usage of Online grades and progress evaluations, 30.98 percent of the students strongly agreed that they have difficulty in the usage of Calendars, tasks, and other personal organization tools and 39.46 percent of the students agreed that they have difficulty in the usage of personal organization tools webpages.

Table 5 Difficulty using of the LMS (Moodle)

Attitudes	1	%	2	%	3	%	4	%		%
I have not had difficulty using Moodle	758	42.85	546	30.86	327	18.49	45	2.54	93	5.26
Course lecture files, notes, Handouts, and supplemental Materials	19	1.07	31	1.75	69	3.90	691	39.06	959	54.21
Multimedia content (e.g., recorded Lectures, video clips, YouTube)	260	14.70	241	13.62	267	15.09	522	29.51	479	27.08
Online Quizzes and Exams	481	27.19	378	21.37	264	14.92	362	20.46	284	16.05
Communication tools (e-mail, Messages, discussion forums, blogs)	171	9.67	136	7.69	351	19.84	653	36.91	458	25.89
Online synchronous communication tools (chat rooms, instant messenger features)	578	32.67	362	20.46	468	26.46	157	8.88	204	11.53
Online collaboration and group work	393	22.22	361	20.41	245	13.85	393	22.22	377	21.31
Online grades and progress evaluations	739	41.78	582	32.90	186	10.51	148	8.37	114	6.44

| Calendars, tasks, and other personal organization tools | 548 | 30.98 | 481 | 27.19 | 173 | 9.78 | 268 | 15.15 | 299 | 16.90 |
| personal organization tools webpages | 269 | 15.21 | 698 | 39.46 | 259 | 14.64 | 278 | 15.72 | 265 | 14.98 |

1-Strongly Agree, 2- Agree, 3- Neutral, 4- Disagree, 5- Strongly Disagree

Conclusion

The Moodle Open source software has established that the majority of Paavai Institutions are aware of the Open source Learning Management Systems (Moodle). They additionally quantified that Paavai Institutions have the ability to contrivance and successfully use the OSLMS (Moodle) for the reason that the institute has such by means of handiness of expert manpower that canister effortlessly study and use the latest technology occurrence of Information Commutation Technology amenities in relationships of intranet/internet connection and structure dedicated to online access. The research further established various strategies and the respondents felt that they would lead to a successful implementation process. Among them some were to train the faculty first so that they might train the learners; campus- wide sensitization processes from side to side and organize conference/workshops to bring awareness of the Moodle and utilization to upgrade the knowledge of reaming students and faculty members.

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