ONE YEAR EXPERIENCE OF DISTANCE EDUCATION AT ABANT IZZET BAYSAL UNIVERSITY

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Abstract: *The aim of this study is to introduce the features of the learning management system (LMS) used in the online learning environment at Abant Izzet Baysal University (AIBU) and provide the number of users in and usage of the LMS. Distance education at AIBU in Turkey started in the fall semester of the academic year-2014-2015. Regarding all the conditions of the university and characteristics of both open source and commercial learning management systems (LMS), an LMS integrated with an online conference tool was purchased from a private company. The LMS has basic features such as the most well-known LMSs except social media tools like blogs, wikis, etc. Also, the LMS was used by 8798 students and 44 instructors for four courses in the spring semester. However, although all instructors created synchronous sessions on a weekly basis regularly, the percentage of students' attendance to synchronous activities is 10.*

***Keywords:*** *distance education, higher education, learning management system*

INTRODUCTION

Khan (2001) defined online learning environment as the system which embraces the learner and the instructor socially and technically. In order to operate this system, Learning Management Systems (LMS) software which supports the online learning activities is required. LMS is described as the "software application that automates the administration, tracking, and reporting of training events" (Ellis, 2009). The basic set components of LMSs are course content, course documents, supplementary internet resources, synchronous and asynchronous communication tools, assessment and evaluation tools, and user tracking tools. Also with the development of Web 2.0 technology, social media and networking tools are integrated with LMSs.

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Online learning applications were started at Abant Izzet Baysal University (AIBU) in Turkey in August, 2014. In order to support online education environment, an LMS was purchased from a private company in Turkey. This institution is one of the leading companies dealing with online education in Turkey, and creates LMSs and online course contents for private and governmental organizations. After analysis and evaluation of both open source and commercial LMSs with a team consisting of experts in instructional technology department at the university and regarding the requirements of the university conditions such as budget, the number of students, teachers and information technology experts at the university, an agreement was made with the company and LMS was hired for 10,000 students. The LMS was installed in a cloud computing environment provided by the company. Also, a web conferencing tool was purchased and it was installed into two server computers at the computing service of the university, integrated with the LMS and could be used by 2,000 users at the same time. Also the company ensured that they respond to any failure in the LMS and the integration of LMS with the web conferencing tool (Figure 1).
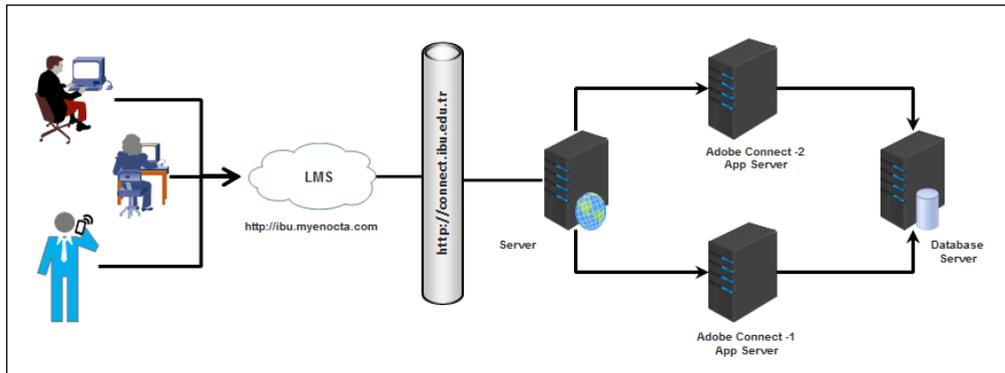
Figure 1. Infrastructure of Learning Management System

COMPONENTS OF LMS AT AIBU

The LMS is composed of several modules in order to help the application of learning and instruction in online learning environment. In this part, the modules of the LMS (Figure 2) and roles of users in the LMS are introduced.

Course content: The asynchronous content of the courses are provided with this module. The system administrators can create courses and add course content using the text editor integrated into LMS and add files in PPT and PDF formats. Teachers can only add PPT and PDF files as course content. The content uploaded into LMS transforms into SCORM compliant files.

Question bank: The head of the departments and the instructors can create and store their questions under this module. Also the questions could be shared among the

instructor. The question types that could be used to create questions are multiple choice, true-false, multiple-answer, matching, essay, and fill-in-the-blank. While creating the questions, the instructor can upload different type of files to their questions such as images, animations, videos etc.

Quiz: Using questions in the question database, the instructors can prepare quizzes and present them to their students in groups or individually. The instructors can select the questions, give points to each question, determine the duration as well as start and end date of the quiz. Also the instructor determines whether the students could examine their results and retake the quiz.

Figure 2. Components of the LMS

Assignment: Following the syllabus of the course, the instructor can add assignments for the course requirements into the LMS, determine the due date for the assignment, and the students have to upload their assignment files to the LMS. The instructor can examine basic information about students' assignments such as the date of the file

uploaded, the size of the file etc. In addition, the instructor can download all files individually or in group, and grade them.

File sharing: The LMS allows teachers to share their digital files in all types and categorize them according to the subjects defined in the syllabus.

Web conferencing: The LMS was integrated with an online web conferencing tool. When the instructor schedules a synchronous online meeting, the LMS sends e-mail to students and reminds of the meeting the day before it. As the tool can record the synchronous meeting, students can watch the lesson again and again. The reports about students' acts such as the time during which they are connected to the tool, the duration of the students' synchronous and asynchronous connection to the tool are stored in the LMS. The teachers, head of departments and the system administrators have the authority to see the reports.

User track: Student logs are recorded by the LMS. System administrators can see the full and detailed records of all log entries. However, teachers' and head of departments' authority over user logs is restricted. The teachers can monitor students' access and achievement on course content, their attendance and attendance duration in the online meetings both synchronous and asynchronous. Also, head of departments can analyze reports about teachers' start and end of online meetings, how many online messages the teachers send and respond, how many online discussions they organized, and how many assignments they assigned and graded.

Announcement: The system administrators, department heads and instructors can make announcements and can respond to an announcement. The announcements made by the administrators and the teachers are seen on students' screen and are e-mailed to the students. Also, the students can respond to an announcement.

Messaging: Messaging for the LMS refers to both users' conversations among them and automatic alerts from the LMS about new assignment submission and synchronous web conferencing scheduling. Messages in the system can be sent as e-mail through the system.

Discussion: The discussion module is an activity where administrators, teachers and students can exchange their ideas by posting comments.

USERS AND THEIR ROLES

In order to restrict system access to authorized users, role-based access control approach is adopted while creating the LMS. The roles described in the LMS are system administrator, head of department, department secretary, teacher, and student. In the LMS, one user has only one role.

System administrator: The administrator can open and close semesters, create and delete courses and upload their content into the LMS, create and delete users individually and in group in the LMS and assign their roles and courses, follow the

detailed logs of users and all records, search in the LMS using the SQL commands, and customize several features of the LMS.

Head of department: The department head can monitor teachers' activities and get reports about their activities while they are using LMS. Also, instructors follow their students' progress in the course.

Secretary: The department secretary can open sections for courses, assign the instructors and students to sections, and get reports of teachers' and students' basic activities such as the attendance in online web conferencing and grades in the LMS.

Teacher: The teacher can upload course content and documents and share it with students and other teachers, prepare the syllabus of the course, schedule the synchronous online meetings, assign projects and assignments to students individually and in group and grade them, create questions for question bank and prepare online quizzes by customizing the features of the quiz, and get reports about students' progress in the online learning environment.

Student: The students can view the online content, see their progress on the content, see the syllabus developed by the teacher, attend to the synchronous online classrooms, upload their assignment to the LMS, and send messages to each user through the LMS.

NUMBER OF ONLINE COURSES AND USERS

Distance education applications at AIBU started in August, 2014. With the decisions and directives of the upper chamber of rector ship, three compulsory common courses (Ataturk's Principles and History of Turkey, Turkish Language, and Foreign Language – English) were decided to be presented fully online. Then the LMS integrated with an online conference tool was purchased with the consideration of university conditions such as the number of students, the budget and technological infrastructure and after the supervision of experts in Computer Education and Instructional Technology department. After presenting the three compulsory courses online in the fall semester, in the spring semester the faculty of education administration decided to present one of the elective courses named Using Technology in Education fully online. The number of online classes and students in compulsory courses and one elective course is presented in Table 1.

At the spring semester of the academic year 2014-2015, a total of 5,735 students registered to the Ataturk's Principles and History of Turkey (APHT) course, 5,810 students had the Turkish Language (TL) course, and 4791 students were presented the Foreign Language – English (FLE) course. In addition, 1,000 students had the Using Technology in Education course fully online. Individually, 8,798 students registered to at least one online course. In order to present online courses a total of 44 instructors were assigned. Ataturk's Principles and History of Turkey, Turkish

Language, Foreign Language – English, and Using Technology in Education courses were held by 9, 12, 13 and 10 instructors respectively (Table 1).

Number of classes and students according to courses

2014 – 2015 Spring Semester	Ataturk's Principles and History of Turkey		Turkish Language (TL)		Foreign Language (English)		Using Technology in Education	
School Type	# of Classes	# of Students	# of Classes	# of Students	# of Classes	# of Students	# of Classes	# of Students
Faculty	52	2,659	54	2,741	46	2,227	22	1,000
High Schools	56	3,076	57	3,069	49	2,564		
Total	**108**	**5,735**	**111**	**5,810**	**95**	**4,791**	**22**	**1,000**

At the end of the spring semester of the academic year 2014-2015, when the data about instructors' scheduling of online classrooms and students' attendance (Table 2) was analyzed, it is observed that the number of synchronous classrooms in TL is higher than the others because of the number of sections in that course. Although the average number of students in a classroom is more than 50, the average number of students in a synchronous course is slightly higher than 5. Namely, the percentage of students' attendance to synchronous activities is 10.

Statistics about synchronous classrooms and students' attendance

Course name	Total # of synchronous classrooms	$\bar{X}$ (number of students in a class)	$\bar{X}$ (number of students in a synchronous class)
APTH	1378	52,95	5,86
TL	1417	52,61	6,17
FLE	1235	50,37	5,02

CONCLUSION

This study described one year experience of distance education applications at AIBU focusing on the LMS purchased for online learning at the university and basic numbers about the online education. Institutions use LMSs in order to implement teaching and learning activities. Although LMSs today differ in many characteristics, LMSs – open source or commercial – contain many common modules such as communication, assignment, social media and etc. Also most of the LMSs have mobile applications. AIBU started distance education applications in August 2014 when it purchased an LMS developed by a private company. Although this LMS has common properties with many LMSs, it lacks basic modules such as social media applications which are in the LMSs today, and lacks the mobile application. In addition to Web 2.0 applications such as blogs, wikis, and discussion forums social media applications such as Facebook and twitter accounts were not integrated within this LMSs. So, in order to enrich the learning environments in terms of instructional technology, different tools were provided in the classroom and benefit taken from the advantages of Web 2.0 in education (An & Williams, 2010; Hew & Cheung, 2013; Rogers-Estable, 2014), Web 2.0 and social media tools should be built in the LMS.

At AIBU, 8,793 students were registered to at least one fully online course in spring semester of the academic year 2014-2015. To implement the online courses a total of 44 instructors were assigned, and they organize synchronous online courses on a weekly basis. Although they get prepared for online meetings every week, only 10% of students in a classroom attended online meetings. This shows that students' attendance in the meetings was low (Gürer, Tekinarslan, & Yavuzalp, 2015), and instructors should design different online learning activities so that the students' motivation level increase and their attendance as well.

Ongoing research should focus on the reasons for the students' low attendance in online courses, students' participation in the classrooms and examining the instructional activities and the strategies implemented by the online teachers.

Acknowledgments

REFERENCES

An, Y.J. & Williams, K. (2013).Teaching with web 2.0 technologies: benefits, barriers and lessons learned. *International Journal of Instructional Technology*

and Distance Learning, 7 (3). [online] at http://www.itdl.org/ Journal/Mar_10/article04.htm

Ellis, R. K. (2009). A filed guide to learning management systems. *ASTD Learning Circuits*, pp. 1-7. [online] at https://www.td.org/~/media/Files/ Publications/LMS_fieldguide_20091 (accessed 5 September 2015).

Gürer, M. D., Tekinarslan, E., & Yavuzalp, N. (2015). Çevrimiçi Ders Veren Öğretim Elemanlarının Uzaktan Eğitim Hakkındaki Görüşleri. *9th International Computer and Instructional Technology Symposium*. Afyon. [online] at http://www.icits2015.org/index.php?pg=33 (accessed 5 September 2015).

Hew, K.F. & Cheung, S.W. (2013). Use of Web 2.0 technologies in K-12 and higher education: The search for evidence-based practice. *Educational Research Review*, 9 (47-64). ISSN: 1747-938X.

Khan, B. H. (2001). *Web Based Training*. Educational Technology Pubs. ISBN-10: 0877783039.

Rogers-Estable, M. (2014). Web 2.0 Use in Higher Education. European Journal of Open and Distance and E-learning. [online] at http://www.eurodl.org/ ?p=archives&year=2014&halfyear=2&article=655 (accessed 12 September 2015).