DEVELOPING E-LEARNING FOR KAZAKH NATIONAL UNIVERSITY

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DEVELOPING E-LEARNING FOR KAZAKH NATIONAL UNIVERSITY

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Specially dedicated to my beloved family.
Thank you very much for your love and unconditional support.

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ABSTRACT

Many universities in the world are implementing technology enhanced learning in order to improve education and help students to develop learning. Nowadays technology enhanced learning offers universities with all context of education and universities are trying to apply it. One such case is the Kazakh National University that is subject of this project. Kazakh National University as of the largest public university in Kazakhstan is meeting challenges to introduce technology enhanced learning. The university's current system is not reliable; also it is outdated in terms of its structure; and need to be replaced with e-learning system. Octagonal theoretical model for e-learning has been used in order to lead this project. This model's eight factors are grouped into three major domains: educational, technological and organizational. This model used as a guideline to observe the study by using a questionnaire and mail interviews as data collection techniques. This data collection was necessary as none of the interviewed individuals had experience with any e-learning systems. The analysis of the data shows positive attitude among the students and teachers for implementing an e-learning system. This proposed system is based on Moodle software and it is believed to be a full scale e-learning system that offers courses for students in Kazakh National University. Through user requirements, the project comes up with a reliable e-learning system that will help the KazNU's administration manage courses and monitor students' progress. Hence therefore the collaboration between students and staff would be improved with developed e-learning system.

ABSTRAK

ICT bukan lagi sesuatu yang baru di universiti malah kebanyakan universiti yang ada di dunia ini telah mengimplementasikan teknologi berasakan pembelajaran bagi tujuan menambahbaikkan sistem pendididkan dan secara tidak langsung membantu pelajar dalam pembelajaran. Pada masa kini, teknlogi berasakan pembelajaran ini menawarkan kepada universiti bukan sahaja focus dapa satu konteks tetapi ianya meliputi semua aspek pendidikan di universiti untuk di implemenatsikan. Universiti National Kazakh merupakan salah satu universiti yang menjadi kajian kes dalam projek ini. Sebagai universiti awam yang terbesar di Kazakhstan, universiti ini menyahut cabaran untuk memperkenalkan dan mengaplikasikan teknologi berasakan pembelajaran ini. Sistem yang wujud di universiti ini pada masa sekarang adalah tidak konsistent.Selain itu, Dari segi struktur sistem,universiti ini masih menggunakan struktur atau rekabentuk yang lama dan perlu untuk digantikan dengan sistem e-learning. Model teori oktagon untuk pembelajaran elektronik (E-Learning) telah digunakan dalam projek ini. Lapan faktor-faktor model ini telah dibahagikan kepada tiga domain utama; pendidikan, teknologi dan organisasi. Model ini telah digunakan sebagai satu garis panduan untuk kajian dengan menggunakan soal selidik dan temubual mel sebagai teknik-teknik pengumpulan data. Pengumpulan data adalah perlu kerana tiada individu-individu yang ditemubual mempunyai pengalaman dengan system E-Learning. Analisis data menunjukkan sikap positif di kalangan pelajar-pelajar dan guru-duru dalam melaksanakan system E-Learning. Sistem yang dicadangkan ini berasaskan perisian Moodle dan dipercayai dapat dijadikan sistem E-Learning berskala penuh yang dapat menawarkan kursus-kursus untuk pelajar-pelajar di Kazakh National University. Melalui keperluan pengguna, projek ini dipercayai dapatmembantu pentadbiran menguruskan kursus-kursus dan mengawal kemajuan pelajar-pelajar. Oleh itu, kerjasama di antara pelajar-pelajar dan kakitangan dapat dipertingkatkan dengan terbangunnya sistem E-Learning ini.

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LIST OF ABBREVIATIONS

ALT	Advanced learning technology
CBT	Computer-based training
CMS	Course Managemnet System
CRC	Class-Responsibility-Collaboration
DB	database
EIS	Enterprise Information System
ICT	Information and Communication Technology
IS/IT	Information System/ Information Technology
LCMS	Learning Content Management System
LSM	Learning Management System
Moodle	Modular Object-Oriented Dynamic Learning Environment
KazNU	Kazakh National University
OO	Object Oriented language
OSS	Subject matter expert
SDLC	System Development Life Cycle
SME	Subject Matter Expert
QA	Quality Assurance
RCA	Root Cause Analysis
UML	Unified Modeling Language
UTM	Universiti Teknologi Malaysia
VLE	Virtual Learning Environment
WebCT	Web course tools
WBS	Work Breakdown Structure

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CHAPTER 1

PROJECT OVERVIEW

1.1 Introduction

Nowadays, using e-learning system in education is becoming, without doubt, more and more important learning method. E-learning system is being used in universities and in higher education, and also in organizations that look for accurate and continuous formation of their employees. One simple activity of this type of learning is the process of learning evaluation; it means to value the earned knowledge by the students.

The evaluation is the movement for the student to verify the reached knowledge in the learning process. In a summary, the evaluation process allows the student to compare the acquired knowledge with the expected one in the formative action and thus to determine if the objectives have been achieved correctly.

The advent of e-learning is mainly due to the widespread use of ICT in education. Today, e-learning has its own standards that are developed by Instructional Management System (IMS). E-learning has a Learning Management System (LMS), which consists of the tools for the creation, storage, use, educational content delivery and management in the multiplayer mode. The main thing that makes e-Learning unique is an opportunity of repeatedly usage of once created multimedia educational content, including online access in the real time. User not only observes the creative process of content creation, but also can participate in establishing learning process. E-learning creates educational content around the social networks, forums, and chat rooms.

E-learning allows to convert the content of education, improve mobility and creative curricula and programs; it provides the possibility of designing and constructing a variety of tools for building professional competence. More and more universities world over are deploying e-learning system for the sake of improving learning process efficiency and student’s knowledge quality.

1.2 Background of problem

Al-Farabi Kazakh National University (KazNU) is the biggest educational and scientific center in Kazakhstan. The university is the national leader of the innovative development of higher professional education, and postgraduate education and science. It is the largest center of scientific and pedagogical personnel’s learning in the field of natural and humanitarian sciences in Kazakhstan.

Currently, the university's activity is directed to reach goals of its further integration of the Al-Farabi Kazakh National University into the World Education

and Scientific Society as well as strengthening of international identity of the University. This activity is realizing in frame of cooperation programs with leading Universities of the World, joint scientific-research efforts, organization of scientific-practical workshops and conferences, exchange of faculty members and development of students' mobility.

To reach these goals KazNU has to use up to date technologies and education techniques. At the current time there is no e-learning system in KazNU that could bring many features for developing education processes in the modern way. The relevance and prevalence of e-learning is very high in Kazakhstan. Students absolutely not satisfied with the teaching of chalk and a classical school board, they want to use their computer skills and knowledge of Internet technologies to achieve more features from the learning process.

The Universities of developed countries have always been leaders in e-learning and their main aim is to develop and test the latest techniques and technologies that is not surprising as the task is to teach. That is why KazNU has to place a high strategic importance on the growth in the provision of highly interactive online environments and to realize this aim is investing intensively in both staff and learning technologies.

1.3 Statement of the problem

This project made an effort to find the answer for the main question: “How to develop e-learning for Kazakh National University? ”This project also made attempt to find answers for some problems, relating to:

i. What is the current situation with learning process in Kazakh National University?

ii. Which e-learning model is suitable for KazNU?

iii. How e-learning can benefit learners, practitioners and educational institutions within KazNU?

This project attempts to provide answers for these questions. In this research it is intended to use a relevant research methodology to analyze the data that will be gathered and arrive with the suggestions for the improvement that can benefit the university, which would enhance learning process.

1.4 Project objectives

The general purpose of this project is defined in the project objectives below:

- Investigate the role of e-learning system in education process;
- Determine the current situation of learning process in Kazakh National University to determine and analyze suitable e-learning model for this university;
- Identify the factors and architecture in designing e-learning system environment for successful adopting in KazNU;
- Develop a prototype of an e-learning system for KazNU.

1.5 Scope

The study will concentrate on the Kazakh National University. In this project e-learning system for KazNU will be developed. The project scope includes:

- Use moodle as Learning Management System (LMS)to create effective online learning web site for KazNU;
- Customize moodle features for e-learning system at KazNU
- Include features:
    1. Accommodated multiple learning styles;
    2. Create variety types of students' knowledge testing options;
    3. Create Flexible Course Management for course coordinators;
    4. Provide online help and tutorials for system users;
    5. Provide different Learning Tools for teachers and students.

1.6 Importance of project

The project will significantly define the following e-learning benefits for KazNU:

i. Convenience and portability (reading, uploading, downloading materials at any time);

ii. Flexibility (use most suitable tools for learning style)

- Eliminate geographical barriers to open up broader education options;
- 24/7 accessibility makes scheduling easy and allows a greater number of people to attend classes.

iii. Higher retention (because of the variety of delivery methods used to reach different types of learners retention is much better than in traditional classrooms);

iv. Greater collaboration (technology tools make collaboration among students more easier);

v. Global opportunities (used technologies and tools can provide education process with opportunities that are not accessible in a traditional classrooms).

1.7 Chapter summary

Chapter 1 describes a general outline of the project by giving a brief introduction and problem of the project. There were identified the statement of the objectives and aims of the project. The scope and importance of this project have also been pointed out. The project will be successfully achieved by successful developing these objectives and aims of the project.

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